



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR

LYNDO TIPPETT  
SECRETARY

July 15, 2005

U.S. Army Corps of Engineers  
Asheville Regulatory Field Office  
151 Patton Avenue / Room 208  
Asheville, North Carolina 28801-5006

ATTN: Mr. Steve Lund  
NCDOT Coordinator

Dear Sir:

Subject: **Nationwide 23 Permit Application.** The proposed replacement of Bridge No. 33 over Brown Creek and Little Brown Creek on Westbound US 74 southeast of Polkton, Anson County, Federal Aid Project: BRNHF-74(42), State Project No. 8.1651401, WBS Element 33377.1.1, TIP B-4009.

Please find enclosed one copy of the Pre-Construction Notification form (PCN), permit drawings, Categorical Exclusion, project commitments, and ½ size plan sheets, for the above referenced project. The North Carolina Department of Transportation (NCDOT) proposes to replace existing Bridge No. 33 on the westbound lane of US 74 over Brown Creek (DWQ Index # 13-20) and Little Brown Creek (DWQ Index # 13-21-1) in Anson County. The project involves replacement of the existing 643-foot structure with a new structure at the existing location. The proposed replacement structure is a bridge 653 feet long. Traffic will be maintained with an on-site detour that utilizes the eastbound bridge located adjacent to the replaced westbound bridge during construction. Existing eastbound US 74 will be divided into one lane in each direction. Westbound traffic will cross on a temporary roadway section constructed in the median and utilize the 'passing lane' of existing eastbound US 74.

**IMPACTS TO WATERS OF THE UNITED STATES**

General Description: The project is located in the 03040104 Hydrologic Unit of the Yadkin-Pee Dee River Basin. Brown Creek originates north of Pageland, South Carolina, and flows in a northerly direction through the project study area to its confluence with the Pee Dee River on the Anson/Richmond County line. Little Brown Creek originates in Wadesboro, North Carolina, north of US 220, and flows in a northerly direction through the project study area to its confluence with Brown Creek. A Best Usage Classification of "C" has been assigned to both Brown Creek and Little Brown Creek. From Bridge No. 33 downstream, Brown Creek has been placed on the 303d impaired waters list. The cause of impairment is low dissolved oxygen and sediment possibly from agricultural sources.

**MAILING ADDRESS:**  
NC DEPARTMENT OF TRANSPORTATION  
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS  
1548 MAIL SERVICE CENTER  
RALEIGH NC 27699-1548

TELEPHONE: 919-733-3141  
FAX: 919-733-9794

WEBSITE: [WWW.NCDOT.ORG](http://WWW.NCDOT.ORG)

**LOCATION:**  
TRANSPORTATION BUILDING  
1 SOUTH WILMINGTON STREET  
RALEIGH NC

Wetlands within the project area are palustrine, forested, broad-leaved deciduous, seasonally flooded (PFO1C) wetlands. They are dominated by black willow (*Salix nigra*), sweet gum (*Liquidambar styraciflua*), and Chinese privet (*Ligustrum sinense*).

Permanent Impacts: Wetlands present in the floodplain of Little Brown Creek and Brown Creek will be impacted by the proposed project. Construction of the proposed project will result in 0.28 acre of permanent impacts to jurisdictional wetlands. These impacts are caused by grade alterations to the approach east of the bridge. Bents necessary for the new structure will permanently impact 0.001 acre of surface water.

Temporary Impacts: There will be temporary impacts to Brown Creek consisting of 0.02 acre of surface water and 27 linear feet. There will be temporary impacts to Little Brown Creek of 0.03 acre of surface water and of 25 linear feet of stream caused by the installation of a temporary causeway and a temporary bridge.

After construction activities are completed, the temporary causeway and bridge associated with the demolition and construction will be removed and revegetated.

## **UTILITY IMPACTS**

There are no utilities attached to the bridge. An overhead utility line runs parallel to the upstream side of the bridge. A second overhead utility line crosses the roadway 100 feet west of the western end bent. There will be no impacts to jurisdictional waters associated with relocation of utility lines on the project site. In addition there will be no relocation of water or sewer lines as a result of the construction on this project site.

## **BRIDGE DEMOLITION**

The existing bridge consists of reinforced concrete deck girders, trestle bents on concrete piles, concrete posts, and web bents with concrete abutments at both Brown Creek and Little Brown Creek. Bridge components are slated for removal in a manner that will avoid dropping any bridge components into Brown Creek or Little Brown Creek. There are no special restrictions beyond those outlined in the Best Management Practices for Protection of Surface Waters. Best Management Practices for Bridge Demolition and Removal will be followed to avoid any temporary fill from entering Waters of the United States.

## **RESTORATION PLAN**

The material used for installation of the temporary causeway, bridge, and pipes within the surface waters will be removed after its purpose has been served. The temporary fill areas will be restored to their original contours. After the temporary causeway and bridge are no longer needed, the contractor will use excavation equipment to remove all material within jurisdictional areas. All material will become the property of the contractor. The contractor will be required to submit a reclamation plan for removal of and disposal of all material off site.

Schedule: The project schedule calls for a November 15, 2005 Let date with a review date of August 27, 2005.



## **AVOIDANCE, MINIMIZATION, AND MITIGATION**

### Avoidance and Minimization:

Avoidance examines all appropriate and practicable possibilities of averting impacts to "Waters of the United States". Due to the presence of surface waters and wetlands within the project study area, avoidance of all impacts is not possible. The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts, and to provide full compensatory mitigation of all remaining, unavoidable jurisdictional stages; minimization measures were incorporated as part of the project design. As part of this commitment, impacts to Brown Creek and Little Brown Creek were minimized by replacing the bridge in the same location, using the eastbound bridge for a detour and utilizing 2:1 slopes in wetland areas. Because of the 303(d) impaired waters listing for Brown Creek sedimentation will be reduced by following the *Design Standards for Sensitive Watersheds*.

### Mitigation:

In accordance with the Memorandum of Agreement (MOA) signed July 22, 2003 by the United States Army Corps of Engineers (USACE), the North Carolina Department of Environment and Natural Resources (NCDENR), and the NCDOT, it is understood that the NCDENR Ecosystem Enhancement Program (EEP) will assume responsibility for satisfying the Clean Water Act. EEP will therefore fulfill compensatory mitigation requirements for NCDOT projects listed in Exhibit 1 of the MOA during the EEP transition period, which ends on June 30, 2005.

Since the subject project is listed in Exhibit 2, the necessary compensatory mitigation to offset unavoidable impacts to waters jurisdictional under the Clean Water Act will be provided by EEP. Compensatory mitigation will derive from an inventory of assets already in place within the same 8-digit cataloguing unit (Hydrologic Catalog Unit 03040104). NCDOT has avoided and minimized impacts to jurisdictional resources to the greatest extent possible as described above. The remaining unavoidable impacts will be offset as follows.

- Compensatory mitigation for impacts to 0.28 acre of jurisdictional wetlands will be provided by the EEP program. Please see the attached EEP acceptance letter dated May 31, 2005.
- Compensatory mitigation is not proposed for temporary impacts to 0.05 acre of surface water and 52 linear feet of perennial stream.

## **FEDERAL PROTECTED SPECIES**

Plants and animals with federal classifications of Endangered, Threatened, Proposed Endangered and Proposed Threatened are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. As of January 29, 2003 the US Fish and Wildlife Service (USFWS) lists five federally protected species for Anson County (Table 1). The USFWS concurred with the biological conclusions in a letter dated April 5, 2002 included in the Categorical Exclusion. No species have been added to or deleted from this list since the completion of the CE (May 2005).

**Table 1. Federally Protected Species in Anson County**

Common Name	Scientific Name	Status	Biological Conclusion
Shortnose sturgeon	<i>Acipenser brevirostrum</i>	Endangered	No Effect
Bald eagle	<i>Haliaeetus leucocephalus</i>	Threatened	No Effect
Red-cockaded woodpecker	<i>Picoides borealis</i>	Endangered	No Effect
Carolina heelsplitter	<i>Lasmigona decorata</i>	Endangered	No Effect
Schweinitz's sunflower	<i>Helianthus schweinitzii</i>	Endangered	No Effect

Field surveys were initially conducted in 2001 and it was determined that the project area does not contain habitat for the shortnose sturgeon, bald eagle, red-cockaded woodpecker, and Schweinitz's sunflower. Therefore a biological conclusion of "No Effect" has been given for these species. Suitable habitat for the Carolina heelsplitter does exist within the project study area. Brown Creek and Little Brown Creek were surveyed on August 29, 2001 under the supervision of NCDOT biologists. Because of suitable habitat and the high diversity of mussels found during the initial survey, the site was revisited by NCDOT biologists for a second review in October 2001. Field investigations showed no evidence of Carolina heelsplitter within the project study area. Therefore a biological conclusion of "No Effect" has been given for the Carolina heelsplitter species.

Due to the amount of native mussels located within the impact area of the project, the USFWS has requested that NCDOT remove them to a safe location upstream during construction. After the bridge is completed, the mussels are to be replaced. The relocation is scheduled for October 2005.

### REGULATORY APPROVALS

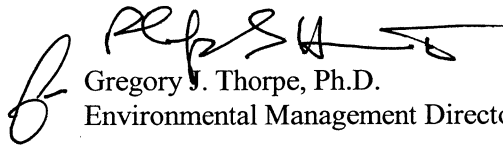
Section 404 Permit: This project is being processed by the Federal Highway Administration as a "Categorical Exclusion" in accordance with 23 CFR 771.115(b). The NCDOT requests that these activities be authorized by a Nationwide Permit 23 (FR number 10, pages 2020-2095; January 15, 2002).

Section 401 Permit: We anticipate 401 General Water Quality Certification number 3403 will apply to this project. All general conditions of the Water Quality Certification will be met. Therefore, in accordance with 15A NCAC 2H, Section .0500(a), we are providing copies of this application to the North Carolina Department of Environmental and Natural Resources, Division of Water Quality for their review.

A copy of this permit will be posted on the NCDOT web site at <http://www.ncdot.org/planning/pe/naturalunit/permit.html>.

Thank you for your time and assistance with this project. Please contact Chris Underwood at (919) 715-1451 if you have any questions or need any additional information.

Sincerely,

  
Gregory J. Thorpe, Ph.D.  
Environmental Management Director, PDEA

cc:

W/attachment

Mr. John Hennessy, NCDWQ (2 Copies)  
Ms. Marella Buncick, USFWS  
Ms. Marla Chambers, NCWRC  
Mr. David Chang, P.E., Hydraulics  
Mr. Greg Perfetti, P.E., Structure Design  
Mr. Mark Staley, Roadside Environmental  
Mr. B. G. Payne, P.E., Division 10 Engineer  
Mr. Larry Thompson, DEO, Division 10

W/o attachment

Mr. Jay Bennett, P.E., Roadway Design  
Mr. Omar Sultan, Programming and TIP  
Mr. Art McMillan, P.E., Highway Design  
Mr. David Franklin, USACE, Wilmington  
Ms. Beth Harmon, EEP  
Mr. Todd Jones, NCDOT, Program Management  
Mr. Michael Penney, P.E., PDEA Project Planning Engineer

**Office Use Only:**

Form Version March 05

**USACE Action ID No.** \_\_\_\_\_ **DWQ No.** \_\_\_\_\_

(If any particular item is not applicable to this project, please enter "Not Applicable" or "N/A".)

**I. Processing**

1. Check all of the approval(s) requested for this project:

<input checked="" type="checkbox"/> Section 404 Permit	<input type="checkbox"/> Riparian or Watershed Buffer Rules
<input type="checkbox"/> Section 10 Permit	<input type="checkbox"/> Isolated Wetland Permit from DWQ
<input checked="" type="checkbox"/> 401 Water Quality Certification	<input type="checkbox"/> Express 401 Water Quality Certification

2. Nationwide, Regional or General Permit Number(s) Requested: NW 23
3. If this notification is solely a courtesy copy because written approval for the 401 Certification is not required, check here: ☐
4. If payment into the North Carolina Ecosystem Enhancement Program (NCEEP) is proposed for mitigation of impacts, attach the acceptance letter from NCEEP, complete section VIII, and check here: ☒
5. If your project is located in any of North Carolina's twenty coastal counties (listed on page 4), and the project is within a North Carolina Division of Coastal Management Area of Environmental Concern (see the top of page 2 for further details), check here: ☐

**II. Applicant Information**

1. Owner/Applicant Information

Name: NC Department of Transportation

Mailing Address: 1548 Mail Service Center  
Raleigh, NC 27699- 1 548

Telephone Number: (919)-715-1451 Fax Number: (919)-715-1501

E-mail Address: csunderwood@dot.state.nc.us

2. Agent/Consultant Information (A signed and dated copy of the Agent Authorization letter must be attached if the Agent has signatory authority for the owner/applicant.)

Name: N/A

Company Affiliation: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

### III. Project Information

Attach a **vicinity map** clearly showing the location of the property with respect to local landmarks such as towns, rivers, and roads. Also provide a detailed **site plan** showing property boundaries and development plans in relation to surrounding properties. Both the vicinity map and site plan must include a scale and north arrow. The specific footprints of all buildings, impervious surfaces, or other facilities must be included. If possible, the maps and plans should include the appropriate USGS Topographic Quad Map and NRCS Soil Survey with the property boundaries outlined. Plan drawings, or other maps may be included at the applicant's discretion, so long as the property is clearly defined. For administrative and distribution purposes, the USACE requires information to be submitted on sheets no larger than 11 by 17-inch format; however, DWQ may accept paperwork of any size. DWQ prefers full-size construction drawings rather than a sequential sheet version of the full-size plans. If full-size plans are reduced to a small scale such that the final version is illegible, the applicant will be informed that the project has been placed on hold until decipherable maps are provided.

1. Name of project: Replacement of Bridge No. 33 over Brown Creek
2. T.I.P. Project Number or State Project Number (NCDOT Only): B-4009
3. Property Identification Number (Tax PIN): N/A
4. Location  
County: Anson Nearest Town: Polkton  
Subdivision name (include phase/lot number): N/A  
Directions to site (include road numbers/names, landmarks, etc.): From Polkton take US 74 East to the city limits. Bridge No. 33 over Brown Creek is the westbound lane just beyond the city limits.
5. Site coordinates (For linear projects, such as a road or utility line, attach a sheet that separately lists the coordinates for each crossing of a distinct waterbody.)  
Decimal Degrees (6 digits minimum): UTM 17 574329 E 3873076 N
6. Property size (acres): Approximately 9 acres
7. Name of nearest receiving body of water: Brown Creek and Little Brown Creek
8. River Basin: Yadkin-Pee Dee River Basin  
(Note – this must be one of North Carolina's seventeen designated major river basins. The River Basin map is available at <http://h2o.enr.state.nc.us/admin/maps/>.)

Describe the existing conditions on the site and general land use in the vicinity of the project at the time of this application: The project area lies in the western part of Anson County. The project is located at the edge of the small community of Polkton and is surrounded by forest land.

9. Describe the overall project in detail, including the type of equipment to be used: The project will consist of replacing the old bridge over Brown Creek with a new bridge approximately 653 feet in length. Approach work is limited to grade alterations to accommodate the new structure. Traffic will be maintained with an on-site detour that utilizes the eastbound bridge located adjacent to the replaced westbound bridge during construction. Construction equipment will consist of heavy-duty trucks, earth moving, equipment, cranes, etc.
10. Explain the purpose of the proposed work: The bridge is considered functionally obsolete and structurally deficient. Replacement of this inadequate structure will result in safer and more efficient traffic operations.

#### **IV. Prior Project History**

If jurisdictional determinations and/or permits have been requested and/or obtained for this project (including all prior phases of the same subdivision) in the past, please explain. Include the USACE Action ID Number, DWQ Project Number, application date, and date permits and certifications were issued or withdrawn. Provide photocopies of previously issued permits, certifications or other useful information. Describe previously approved wetland, stream and buffer impacts, along with associated mitigation (where applicable). If this is a NCDOT project, list and describe permits issued for prior segments of the same T.I.P. project, along with construction schedules. N/A

#### **V. Future Project Plans**

Are any future permit requests anticipated for this project? If so, describe the anticipated work, and provide justification for the exclusion of this work from the current application.

N/A

#### **VI. Proposed Impacts to Waters of the United States/Waters of the State**

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to wetlands, open water, and stream channels associated with the project. Each impact must be listed separately in the tables below (e.g., culvert installation should be listed separately from riprap dissipater pads). Be sure to indicate if an impact is temporary. All proposed impacts, permanent and temporary, must be listed, and must be labeled and clearly identifiable on an accompanying site plan. All wetlands and waters, and all streams (intermittent and perennial) should be shown on a delineation map, whether or not impacts are proposed to these systems. Wetland and stream evaluation and delineation forms should be included as appropriate. Photographs may be included at the applicant's discretion. If this proposed impact is strictly for wetland or stream mitigation, list and describe the impact in Section VIII below. If additional space is needed for listing or description, please attach a separate sheet.

1. Provide a written description of the proposed impacts: There will be 0.19 acre of fill in wetlands and 0.09 acre of mechanized clearing due to grade alterations. There will be 0.05

acre of temporary fill in the surface waters, and impact 52 linear feet of stream channel due to a temporary construction causeway and bridge.

2. Individually list wetland impacts. Types of impacts include, but are not limited to mechanized clearing, grading, fill, excavation, flooding, ditching/drainage, etc. For dams, separately list impacts due to both structure and flooding.

Wetland Impact Site Number (indicate on map)	Type of Impact	Type of Wetland (e.g., forested, marsh, herbaceous, bog, etc.)	Located within 100-year Floodplain (yes/no)	Distance to Nearest Stream (linear feet)	Area of Impact (acres)
2	Fill/Permanent	Forested	Yes	680	0.19
2	Mechanized clearing/Permanent	Forested	Yes	680	0.09
Total Wetland Impact (acres)					0.28

3. List the total acreage (estimated) of all existing wetlands on the property: 0.7

4. Individually list all intermittent and perennial stream impacts. Be sure to identify temporary impacts. Stream impacts include, but are not limited to placement of fill or culverts, dam construction, flooding, relocation, stabilization activities (e.g., cement walls, rip-rap, crib walls, gabions, etc.), excavation, ditching/straightening, etc. If stream relocation is proposed, plans and profiles showing the linear footprint for both the original and relocated streams must be included. To calculate acreage, multiply length X width, and then divide by 43,560.

Stream Impact Number (indicate on map)	Stream Name	Type of Impact	Perennial or Intermittent?	Average Stream Width Before Impact	Impact Length (linear feet)	Area of Impact (acres)
1	Brown Creek	Temporary Fill	Perennial	50	27	0.024
1	Little Brown Creek	Temporary Bridge	Perennial	25	25	0.025
Total Stream Impact (by length and acreage)					52	0.05

5. Individually list all open water impacts (including lakes, ponds, estuaries, sounds, Atlantic Ocean and any other water of the U.S.). Open water impacts include, but are not limited to fill, excavation, dredging, flooding, drainage, bulkheads, etc.

Open Water Impact Site Number (indicate on map)	Name of Waterbody (if applicable)	Type of Impact	Type of Waterbody (lake, pond, estuary, sound, bay, ocean, etc.)	Area of Impact (acres)
N/A				
Total Open Water Impact (acres)				

6. List the cumulative impact to all Waters of the U.S. resulting from the project:

Stream Impact (acres):	
Wetland Impact (acres):	0.28
Open Water Impact (acres):	
Total Impact to Waters of the U.S. (acres)	0.28
Total Stream Impact (linear feet):	

7. Isolated Waters

Do any isolated waters exist on the property? ☐ Yes ☒ No

Describe all impacts to isolated waters, and include the type of water (wetland or stream) and the size of the proposed impact (acres or linear feet). Please note that this section only applies to waters that have specifically been determined to be isolated by the USACE.

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8. Pond Creation

If construction of a pond is proposed, associated wetland and stream impacts should be included above in the wetland and stream impact sections. Also, the proposed pond should be described here and illustrated on any maps included with this application.

Pond to be created in (check all that apply): ☐ uplands ☐ stream ☐ wetlands

Describe the method of construction (e.g., dam/embankment, excavation, installation of draw-down valve or spillway, etc.): N/A

Proposed use or purpose of pond (e.g., livestock watering, irrigation, aesthetic, trout pond, local stormwater requirement, etc.): N/A

Current land use in the vicinity of the pond: N/A

Size of watershed draining to pond: N/A Expected pond surface area: N/A

## VII. Impact Justification (Avoidance and Minimization)

Specifically describe measures taken to avoid the proposed impacts. It may be useful to provide information related to site constraints such as topography, building ordinances, accessibility, and financial viability of the project. The applicant may attach drawings of alternative, lower-impact site layouts, and explain why these design options were not feasible. Also discuss how impacts were minimized once the desired site plan was developed. If applicable, discuss construction techniques to be followed during construction to reduce impacts. Due to the presence of surface waters and wetlands within the project study area, avoidance of all impacts is not possible. The proposed alternative, a new bridge on same location, minimizes impacts to wetlands.

## VIII. Mitigation

DWQ - In accordance with 15A NCAC 2H .0500, mitigation may be required by the NC Division of Water Quality for projects involving greater than or equal to one acre of impacts to freshwater wetlands or greater than or equal to 150 linear feet of total impacts to perennial streams.



USACE – In accordance with the Final Notice of Issuance and Modification of Nationwide Permits, published in the Federal Register on January 15, 2002, mitigation will be required when necessary to ensure that adverse effects to the aquatic environment are minimal. Factors including size and type of proposed impact and function and relative value of the impacted aquatic resource will be considered in determining acceptability of appropriate and practicable mitigation as proposed. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland and/or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferable in the same watershed.

If mitigation is required for this project, a copy of the mitigation plan must be attached in order for USACE or DWQ to consider the application complete for processing. Any application lacking a required mitigation plan or NCEEP concurrence shall be placed on hold as incomplete. An applicant may also choose to review the current guidelines for stream restoration in DWQ's Draft Technical Guide for Stream Work in North Carolina, available at <http://h2o.enr.state.nc.us/ncwetlands/strmgide.html>.

1. Provide a brief description of the proposed mitigation plan. The description should provide as much information as possible, including, but not limited to: site location (attach directions and/or map, if offsite), affected stream and river basin, type and amount (acreage/linear feet) of mitigation proposed (restoration, enhancement, creation, or preservation), a plan view, preservation mechanism (e.g., deed restrictions, conservation easement, etc.), and a description of the current site conditions and proposed method of construction. Please attach a separate sheet if more space is needed.

EEP will assume responsibility for compensatory mitigation.

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2. Mitigation may also be made by payment into the North Carolina Ecosystem Enhancement Program (NCEEP). Please note it is the applicant's responsibility to contact the NCEEP at (919) 715-0476 to determine availability, and written approval from the NCEEP indicating that they are willing to accept payment for the mitigation must be attached to this form. For additional information regarding the application process for the NCEEP, check the NCEEP website at <http://h2o.enr.state.nc.us/wrp/index.htm>. If use of the NCEEP is proposed, please check the appropriate box on page five and provide the following information:

Amount of stream mitigation requested (linear feet):	<u>N/A</u>
Amount of buffer mitigation requested (square feet):	<u>N/A</u>
Amount of Riparian wetland mitigation requested (acres):	<u>0.28</u>
Amount of Non-riparian wetland mitigation requested (acres):	<u>N/A</u>
Amount of Coastal wetland mitigation requested (acres):	<u>N/A</u>

**IX. Environmental Documentation (required by DWQ)**

1. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land? Yes ☒ No ☐
2. If yes, does the project require preparation of an environmental document pursuant to the requirements of the National or North Carolina Environmental Policy Act (NEPA/SEPA)?  
Note: If you are not sure whether a NEPA/SEPA document is required, call the SEPA coordinator at (919) 733-5083 to review current thresholds for environmental documentation.  
Yes ☒ No ☐
3. If yes, has the document review been finalized by the State Clearinghouse? If so, please attach a copy of the NEPA or SEPA final approval letter. Yes ☒ No ☐

**X. Proposed Impacts on Riparian and Watershed Buffers (required by DWQ)**

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to required state and local buffers associated with the project. The applicant must also provide justification for these impacts in Section VII above. All proposed impacts must be listed herein, and must be clearly identifiable on the accompanying site plan. All buffers must be shown on a map, whether or not impacts are proposed to the buffers. Correspondence from the DWQ Regional Office may be included as appropriate. Photographs may also be included at the applicant's discretion.

1. Will the project impact protected riparian buffers identified within 15A NCAC 2B .0233 (Neuse), 15A NCAC 2B .0259 (Tar-Pamlico), 15A NCAC 02B .0243 (Catawba) 15A NCAC 2B .0250 (Randleman Rules and Water Supply Buffer Requirements), or other (please identify \_\_\_\_\_)? Yes ☐ No ☒
2. If "yes", identify the square feet and acreage of impact to each zone of the riparian buffers. If buffer mitigation is required calculate the required amount of mitigation by applying the buffer multipliers.

Zone*	Impact (square feet)	Multiplier	Required Mitigation
1		3 (2 for Catawba)	
2		1.5	
Total			

\* Zone 1 extends out 30 feet perpendicular from the top of the near bank of channel; Zone 2 extends an additional 20 feet from the edge of Zone 1.

3. If buffer mitigation is required, please discuss what type of mitigation is proposed (i.e., Donation of Property, Riparian Buffer Restoration / Enhancement, or Payment into the Riparian Buffer Restoration Fund). Please attach all appropriate information as identified within 15A NCAC 2B .0242 or .0244, or .0260. \_\_\_\_\_

N/A

**XI. Stormwater (required by DWQ)**

Describe impervious acreage (existing and proposed) versus total acreage on the site. Discuss stormwater controls proposed in order to protect surface waters and wetlands downstream from the property. If percent impervious surface exceeds 20%, please provide calculations demonstrating total proposed impervious level. \_\_\_\_\_

N/A

**XII. Sewage Disposal (required by DWQ)**

Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility.

N/A

**XIII. Violations (required by DWQ)**

Is this site in violation of DWQ Wetland Rules (15A NCAC 2H .0500) or any Buffer Rules?

Yes ☐

No ☒

Is this an after-the-fact permit application? Yes ☐ No ☒

**XIV. Cumulative Impacts (required by DWQ)**

Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality? Yes ☐ No ☒

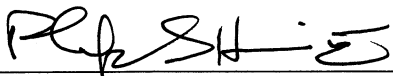
If yes, please submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent North Carolina Division of Water Quality policy posted on our website at <http://h2o.enr.state.nc.us/ncwetlands>. If no, please provide a short narrative description: \_\_\_\_\_

This project involves the replacement of a bridge with a bridge.

**XV. Other Circumstances (Optional):**

It is the applicant's responsibility to submit the application sufficiently in advance of desired construction dates to allow processing time for these permits. However, an applicant may choose to list constraints associated with construction or sequencing that may impose limits on work schedules (e.g., draw-down schedules for lakes, dates associated with Endangered and Threatened Species, accessibility problems, or other issues outside of the applicant's control).

N/A

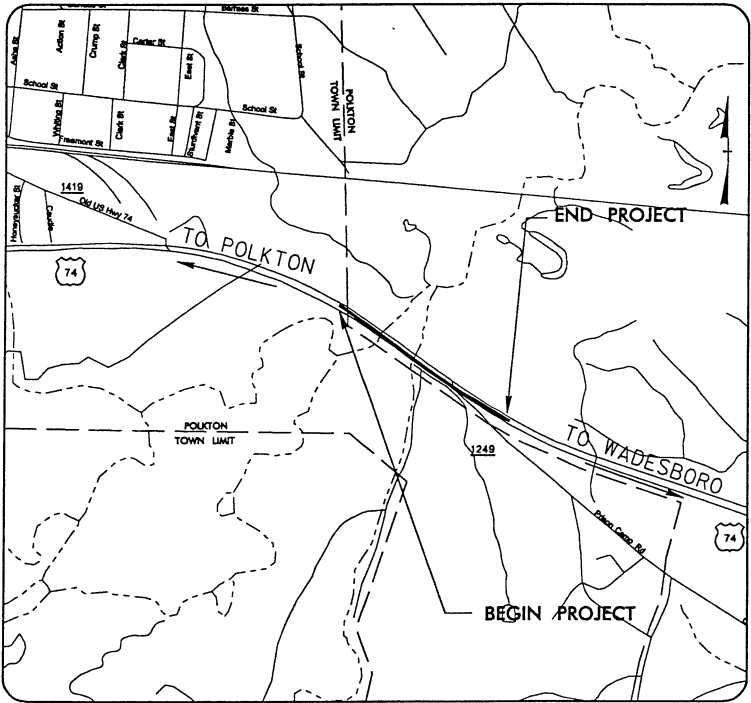
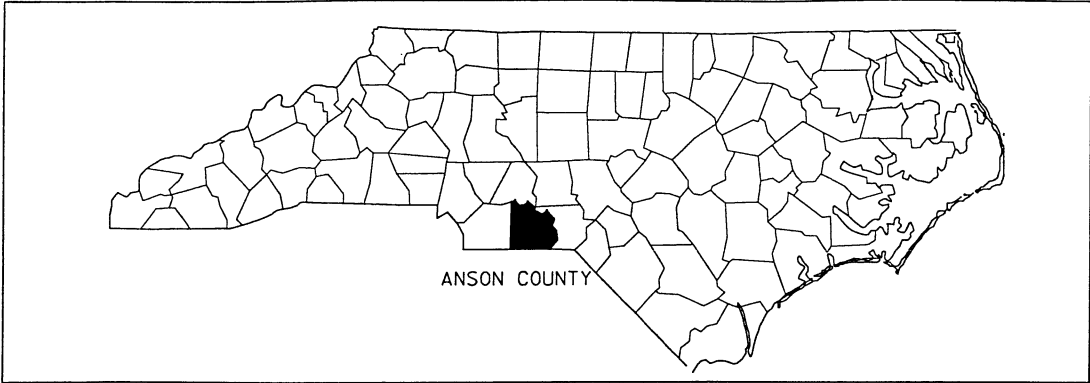


**Applicant/Agent's Signature**

7/15/05

**Date**

(Agent's signature is valid only if an authorization letter from the applicant is provided.)



# VICINITY MAPS

## N. C. DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS

ANSON COUNTY

PROJECT: 33377.1.1 (B-4009)

BRIDGE NO.33 OVER BROWNS  
CREEK ON US 74 WBL  
(MIDDLE RD.)

SHEET 1 OF 9 1 // 03 // 05

## WETLAND IMPACTS

## SURFACE WATER IMPACTS

Site No.	Station (From/to)	Structure Size / Type	Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation In Wetlands (ac)	Mechanized Clearing (Method II) (ac)	Temp. Fill In SW (Natural) (ac)	Fill In SW (Pond) (ac)	Temp. Existing Channel Impacted (ft)	Existing Channel Impacted (ft)	Natural Stream Design (ft)
1	35+65 - 41+40 -L- Lt	Temp. Causeway/Bridge					0.02		52	0.001	
2	48+05 - 51+10 -L- Lt	none	0.19			0.09					
TOTALS:			0.19	0	0	0.09	0.02	0	52	0.001	0

NC DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

ANSON COUNTY  
PROJECT 33377.1.1 B-4009

**List of Property Owners:**

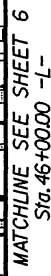
NCDOT Division 10  
716 West Main St.  
Albemarle, NC 28001

Martin, W. Cliff  
P.O. Box 309  
Polkton, NC 28135



NC DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

ANSON COUNTY  
PROJECT 33377.1.1 B-4009

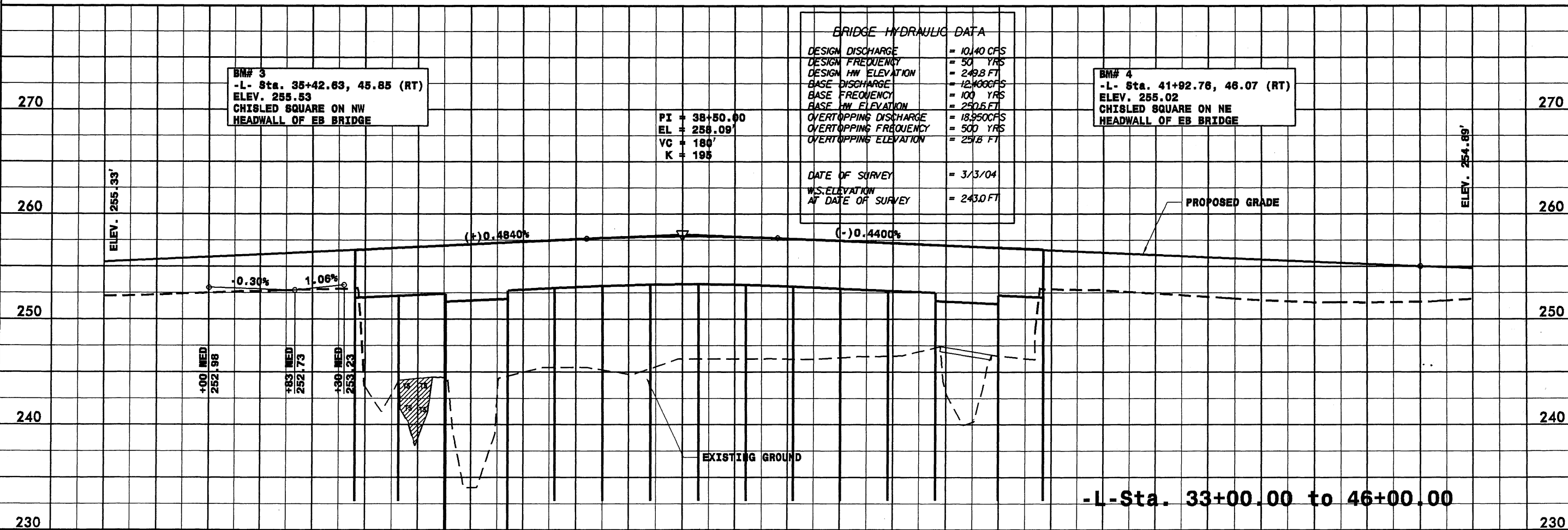
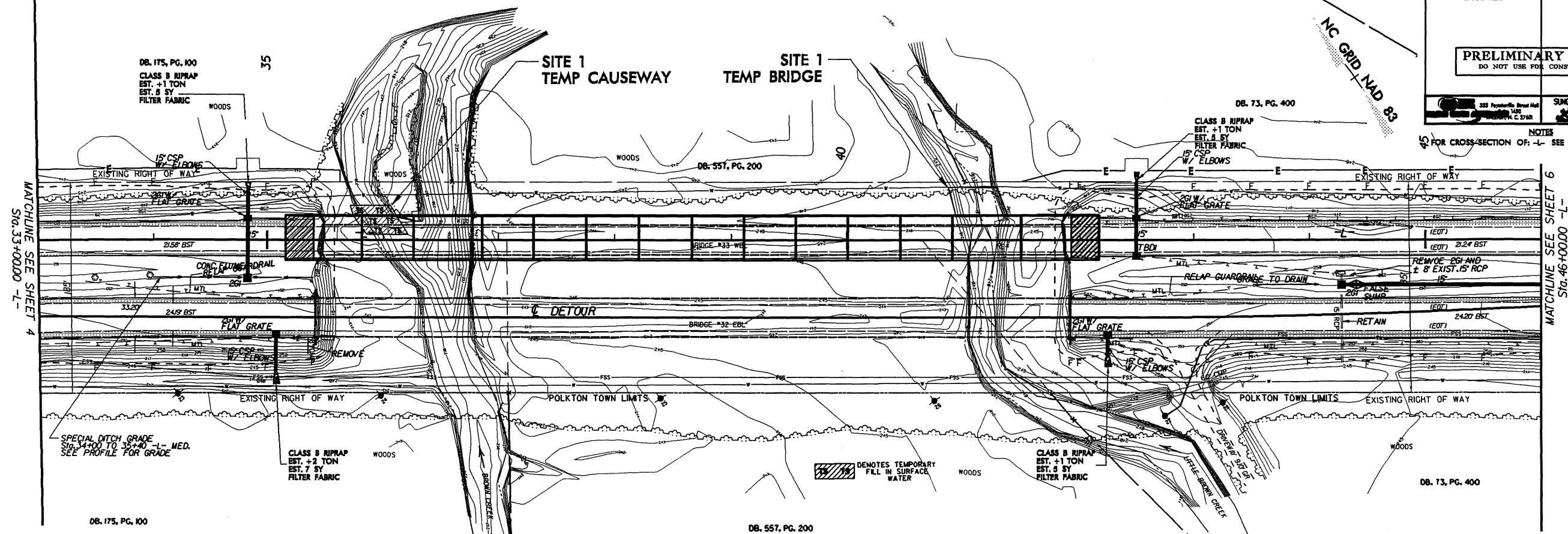
Sheet 3 of 9 1/11/2005





NC GRID NAD 83

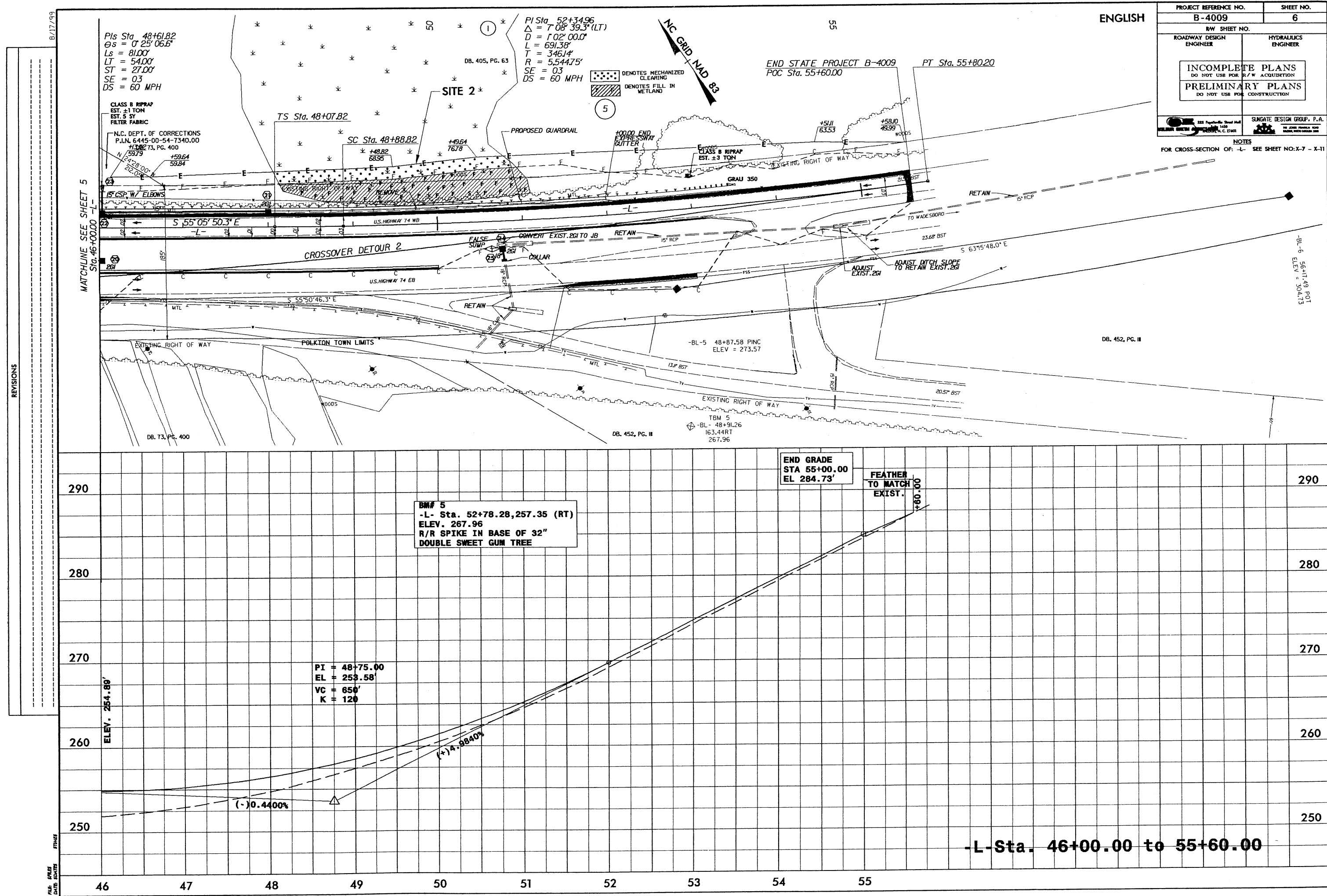
PROJECT REFERENCE NO.		SHEET NO.	
B - 4009		5	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div style="border: 1px solid black; padding: 10px; text-align: center;"> <h2 style="margin: 0;">PRELIMINARY PLANS</h2> <p style="margin: 0;">DO NOT USE FOR CONSTRUCTION</p> </div>			
 <p>323 Persepolis Street Mail Box 100 Boulder, CO 80501 Tel: 303.440.5240</p>		 <p><b>SUNCATE DESIGN GROUP, P.C.</b> 300 WEST 10TH AVE SUITE 200 DENVER, CO 80202 TEL: 303.733.8888</p>	



NOTES  
15 FOR CROSS SECTION OF: -L- SEE SHEET NO





PROJECT REFERENCE NO.		SHEET NO.	
B-4009		6	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div style="border: 1px solid black; padding: 10px; text-align: center;"> <p>INCOMPLETE PLANS</p> <p>DO NOT USE FOR R/W ACQUISITION</p> <p>PRELIMINARY PLANS</p> <p>DO NOT USE FOR CONSTRUCTION</p> </div>			
 <p>225 Fayetteville Street Mail Box 26170 Raleigh, N.C. 27611</p>		<p>SUNGATE DESIGN GROUP, P.A.</p>  <p>300 NORTH HARRIS ROAD RALEIGH, NORTH CAROLINA 27603</p>	





PROJECT REFERENCE NO.		SHEET NO.	
B-4009		7	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div style="border: 1px solid black; padding: 10px; text-align: center;"> <p>INCOMPLETE PLANS</p> <p>DO NOT USE FOR R/W ACQUISITION</p> <hr/> <p>PRELIMINARY PLANS</p> <p>DO NOT USE FOR CONSTRUCTION</p> </div>			
 <p>325 North Dearborn Street, 4th Floor Chicago, Illinois 60610, U.S.A. 312.462.3100</p>		<p>SINGATE DESIGN GROUP, P.A.</p>  <p>10000 WILLOW PARKWAY, SUITE 100 CHICAGO, ILLINOIS 60633, U.S.A. 312.462.3100</p>	

Pls Sta 48+61.82  
 $\theta s = 0^\circ 25' 06.6''$   
 $Ls = 81.00'$   
 $LT = 54.00'$   
 $ST = 27.00'$   
 $SE = 03$   
 $DS = 60 \text{ MPH}$

CLASS B RIPRAP  
EST. ±1 TON  
EST. 5 SY  
FILTER FABRIC

N.C. DEPT. OF CORRECTIONS  
P.I.N. 6445-00-54-7340.00  
#138273, PG. 400  
4. 5979

PI Sta 52+34.96  
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 $L = 691.38'$   
 $T = 346.14'$   
 $R = 5544.75'$   
 $SE = 03$   
 $DS = 60$  MPH 


 DENOTES MECHANIZED  
CLEARING  
 DENOTES FILL IN  
WETLAND

END STATE PROJECT B-4009  
POC Sta. 55+60.00

PT Sta. 55+80.20

MATCHLINE SEE SHEET 5  
Sta 46+00.00 -/ -

## REVISIONS

DB. 452, PG. 111

290

290

BM# 5  
-L- Sta. 52+78.28, 257.35 (RT)  
ELEV. 267.96  
R/R SPIKE IN BASE OF 32"  
DOUBLE SWEET GUM TREE

END GRADE  
STA 55+00.00  
EL 284.73'

FEATHER	00
TO MATCH	00
EXIST.	00

280

270

260

250

PI = 48+75.00
EL = 253.58'
VC = 650'
K = 120

ELEV. 254.89'

(+) 4.9840%

(-)0.4400%

**-L-Sta. 46+00.00 to 55+60.00**

46

47

48

49

50

51

52

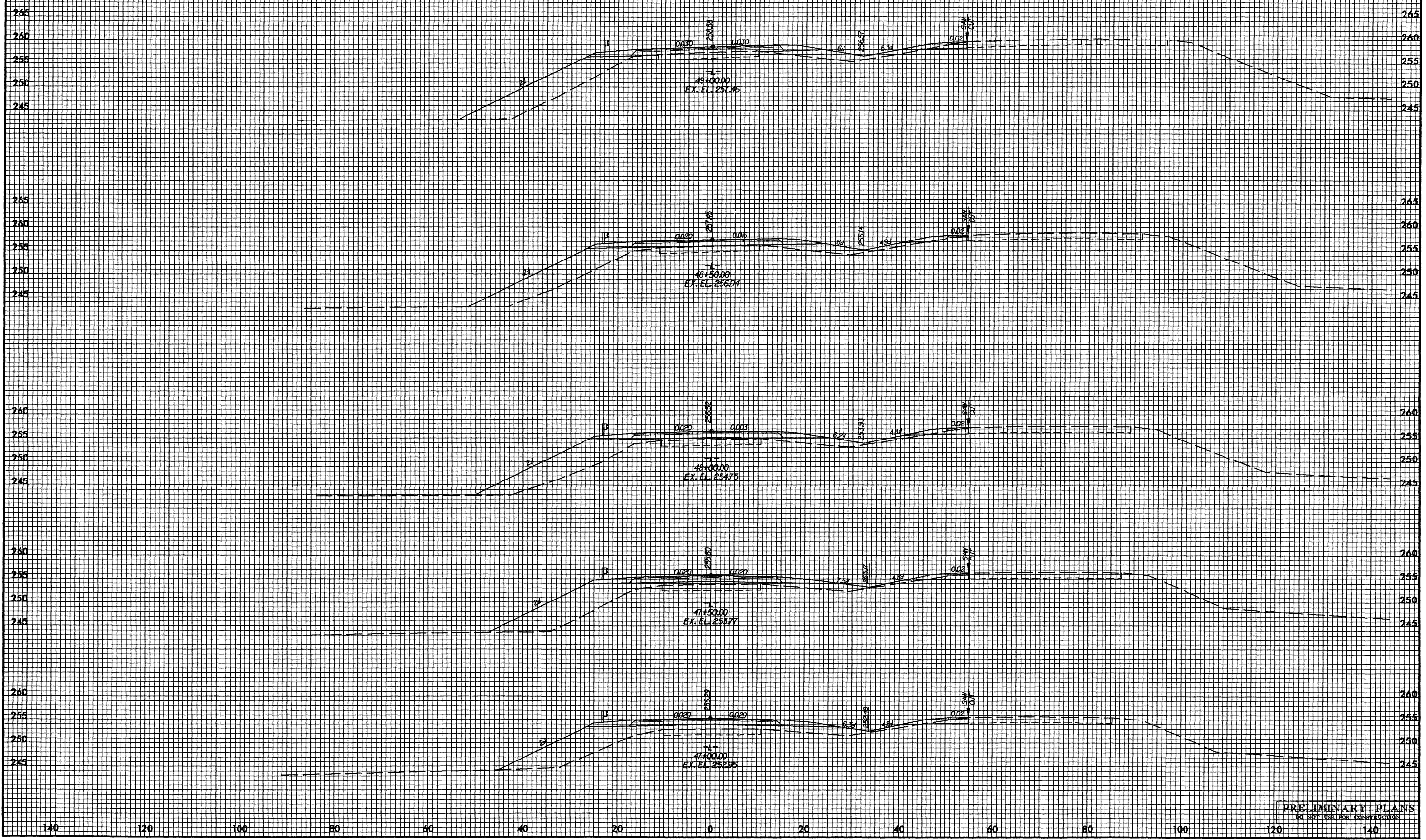
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54

55



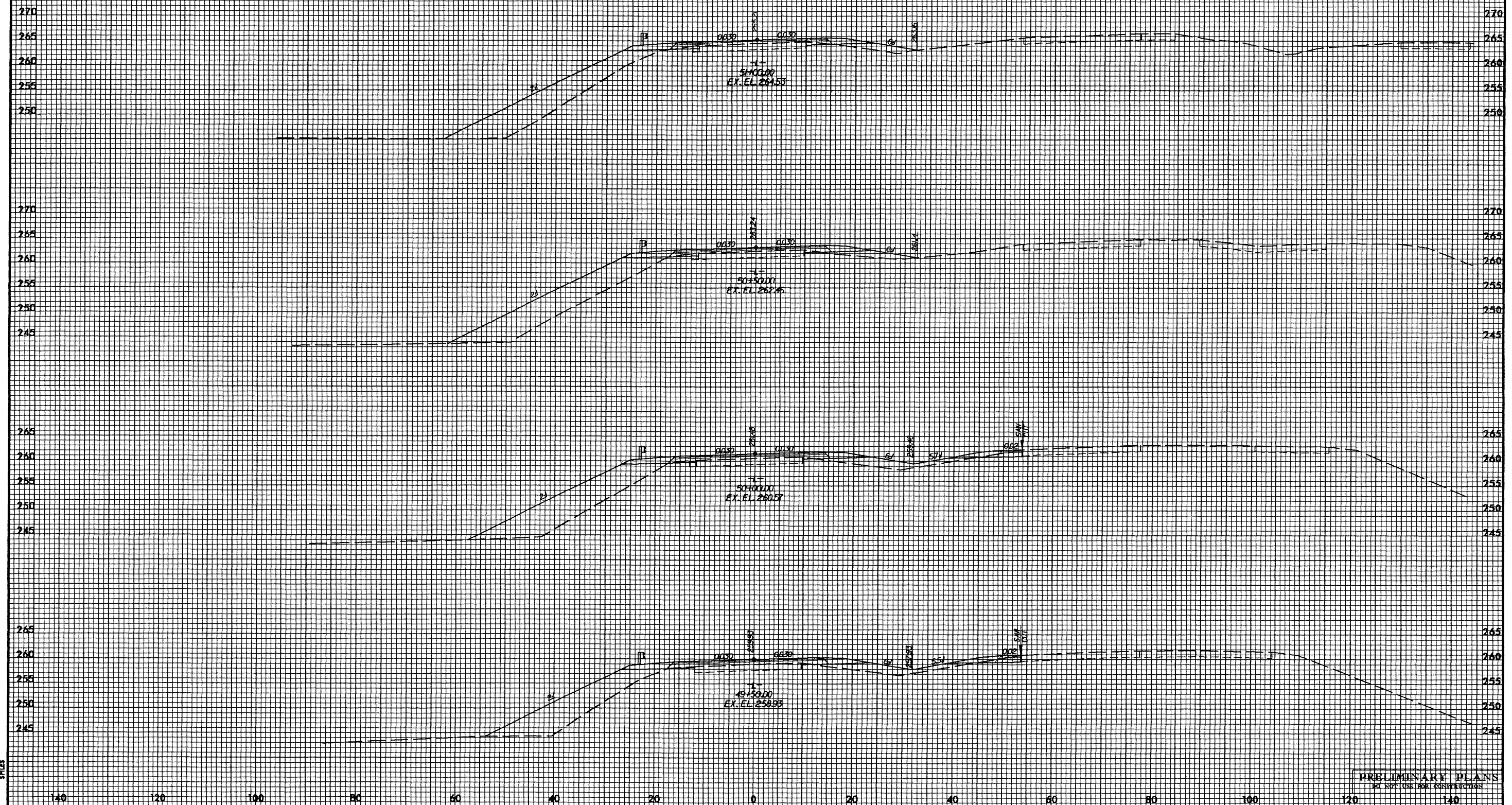
SITE 2



DATE: 5/24/83  
TIME: 5:15 PM  
BY: JES



# SITE 2



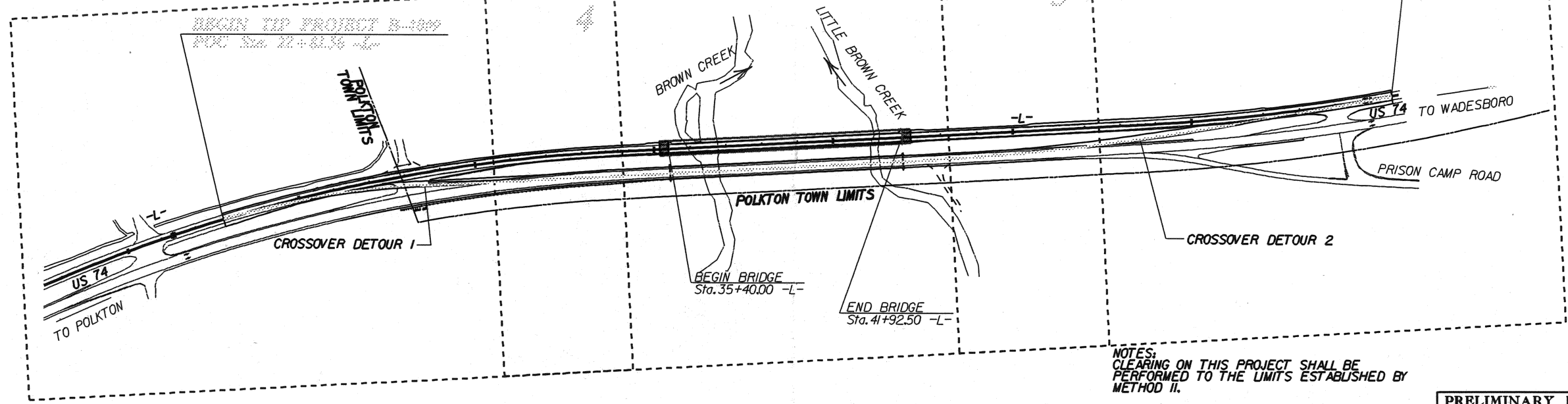
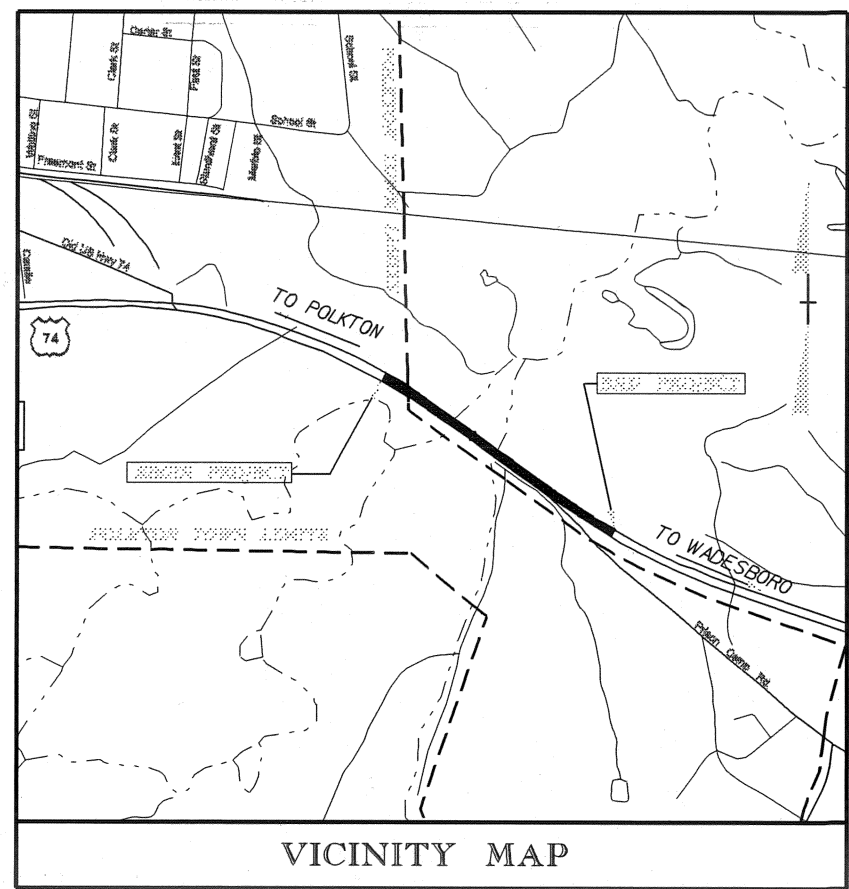
09/08/99  
CONTRACT: TIP PROJECT: B-4009

See Sheet 1-A For Index of Sheets  
See Sheet 1-B For Conventional Symbols

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**ANSON COUNTY**

LOCATION: BRIDGE NO. 10 OVER BROWN CREEK ON US 74 WBL  
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4009	1	
WBS NO.	P.A. PROJ. NO.	DESCRIPTION	
001711	BR007-71421	P.E.	



NOTES:  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.  
THIS PROJECT IS PARTIALLY LOCATED WITHIN THE POLKTON MUNICIPALITY BOUNDARIES.

**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

NOTE: CONTACT TERESA HUNTON, P.E. - PROJECT ENGINEER - ROADWAY DESIGN

<b>GRAPHIC SCALES</b> PLAN PROFILE HORIZONTAL PROFILE VERTICAL	<b>DESIGN DATA</b> ACT 2005 = 9,800 ACT 2015 = 17,000 DWT = 70 % D = 60 % T = 18 % V = 60 MPH * TYP 15% DUAL 2% ** DESIGN EXCEPTION FOR MAX GRADE FUNCTIONAL CLASS = RURAL CLASS = ARTURAL	<b>PROJECT LENGTH</b> LENGTH ROADWAY TIP PROJECT B-4009 = 0.497 MILES LENGTH STRUCTURE TIP PROJECT B-4009 = 0.124 MILES TOTAL ROADWAY LENGTH TIP PROJECT B-4009 = 0.621 MILES	<b>WILBUR SMITH ASSOCIATES</b> P.O. BOX 2478 RALPH, NC 27602-2478 PHONE (919) 753-0503 2002 STANDARD SPECIFICATIONS RIGHT OF WAY DATE: November 30, 2004 LETTING DATE: NOVEMBER 15, 2005 DAVID L. WILBUR, P.E. PROJECT ENGINEER DAVID L. WILBUR, P.E. PROJECT DESIGN ENGINEER	<b>HYDRAULICS ENGINEER</b> SIGNATURE: P.E. ROADWAY DESIGN ENGINEER SIGNATURE: P.E.	<b>DIVISION OF HIGHWAYS</b> STATE OF NORTH CAROLINA STATE DESIGN ENGINEER DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION APPROVED DIVISION ADMINISTRATOR DATE
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8/17/96

RECYCLERS ACQUISITIONCO, LLC  
P.L.N. 6445-06-38-636L00  
DB. 639, PG. 175

BEGIN CROSSOVER DETOUR 1  
PC Sta. 22+81.56 -DET--  
POC Sta. 22+81.56 -L-

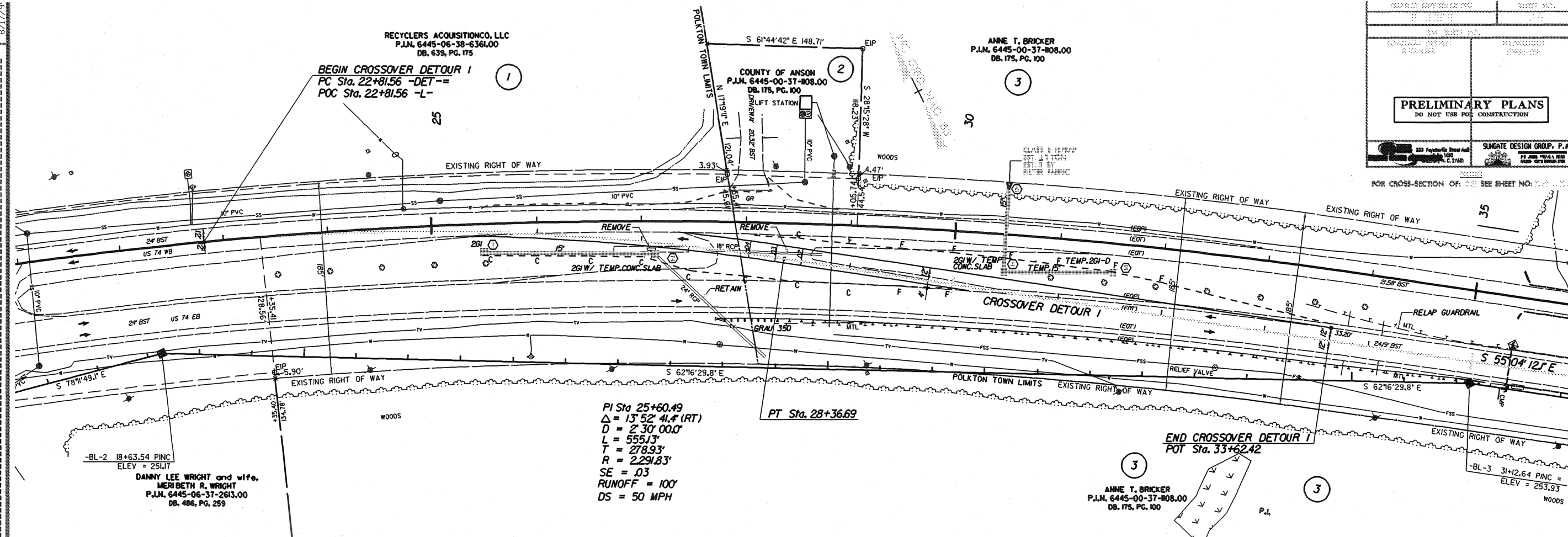
COUNTY OF ANSON  
P.L.N. 6445-00-37-808.00  
DB. 175, PG. 100

ANNE T. BRICKER  
P.L.N. 6445-00-37-808.00  
DB. 175, PG. 100

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

SUNGATE DESIGN GROUP, P.A.  
323 Fayetteville Street, Suite 1400  
Fayetteville, NC 28401  
P.O. Box 10000  
Fayetteville, NC 28401

FOR CROSS-SECTION OF: SEE SHEET NO. 35



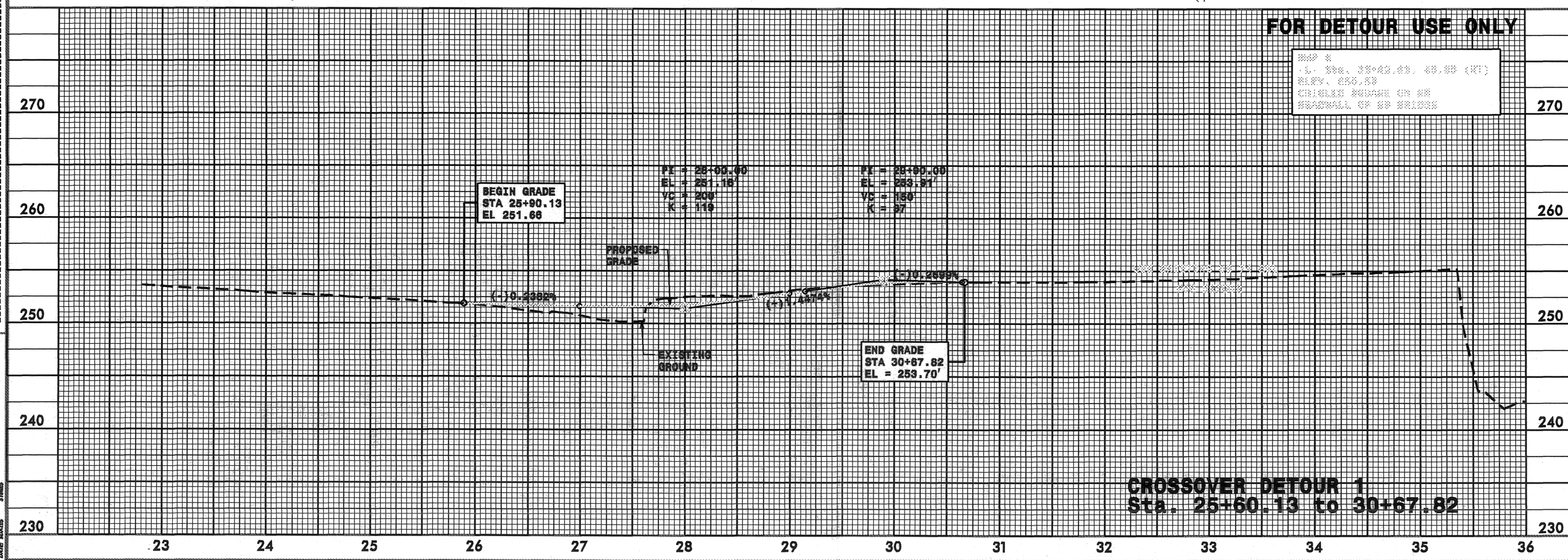
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 $R = 2291.83'$   
 $SE = .03$   
 $RUNOFF = 100'$   
 $DS = 50 MPH$

END CROSSOVER DETOUR 1  
POT Sta. 33+62.42

ANNE T. BRICKER  
P.L.N. 6445-00-37-808.00  
DB. 175, PG. 100

FOR DETOUR USE ONLY

MAP 8  
L. Sta. 33+62.42, 43.89 (RT)  
ELEV. 253.93  
CHECK GRADE ON 88  
ROADWAY OF 88 BRIDGE



CROSSOVER DETOUR 1  
Sta. 25+60.13 to 30+67.82



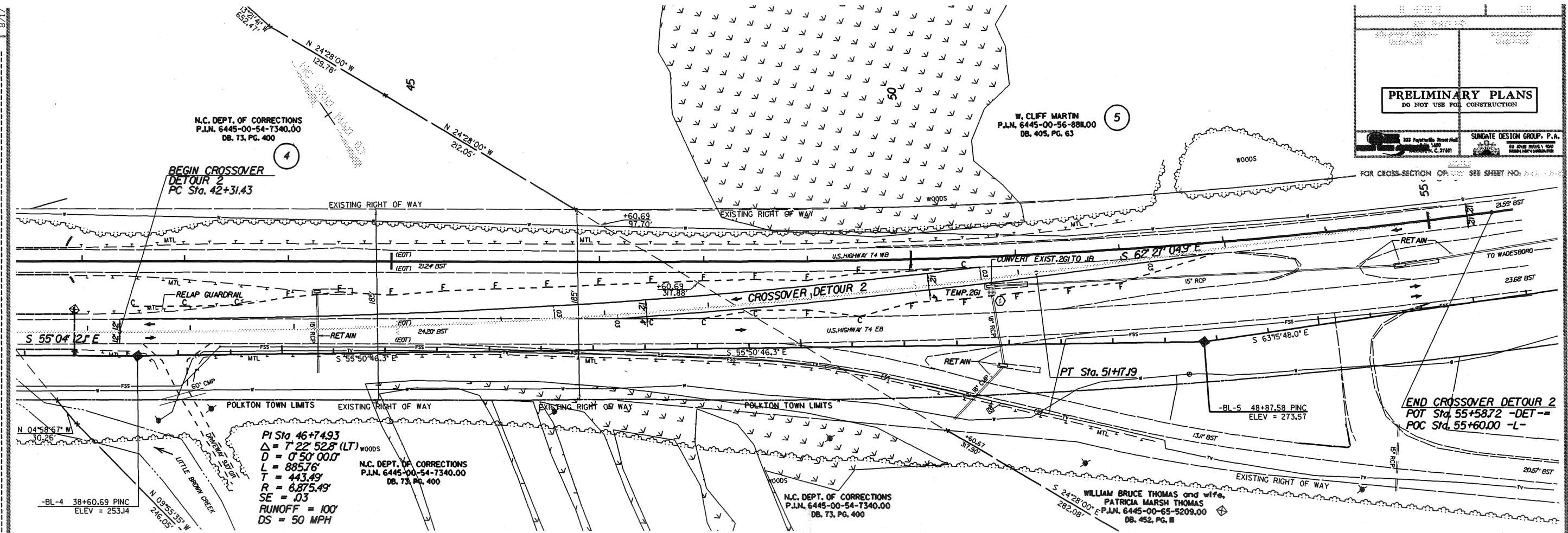
8/17

REVISIONS

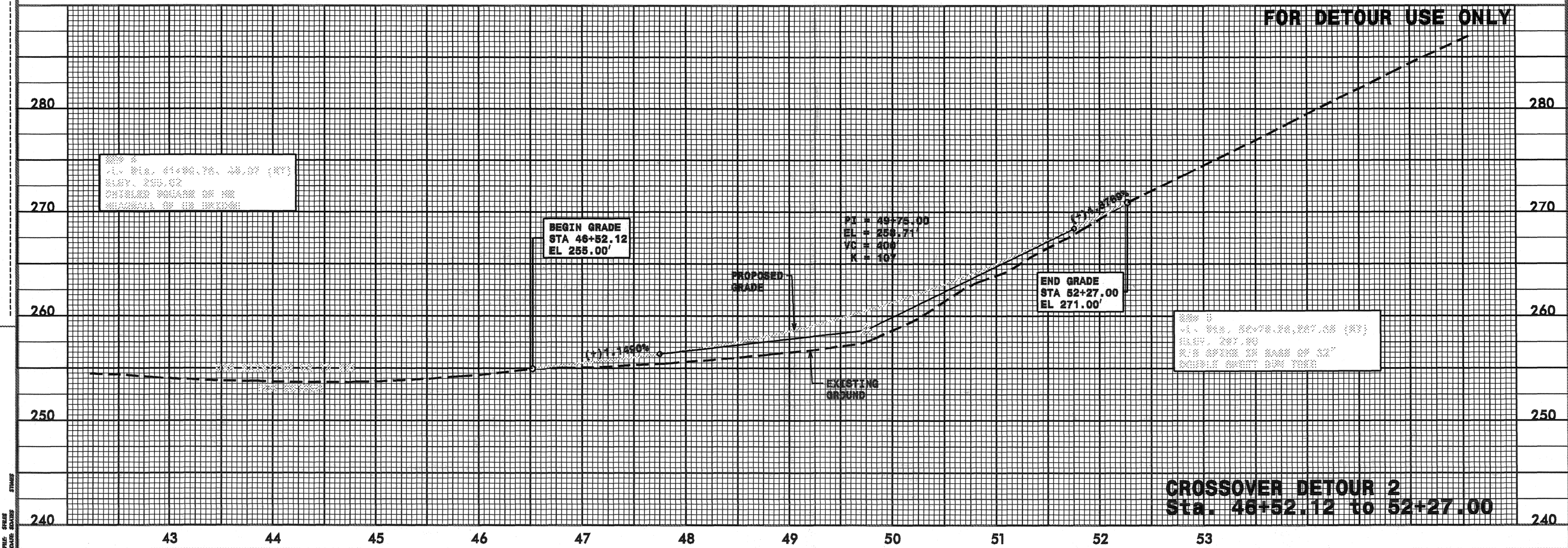
**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

**SUNDATE DESIGN GROUP, P.A.**  
333 Fayetteville Street, Suite 1400  
Fayetteville, N.C. 27401  
Phone: 704.329.1400  
Fax: 704.329.1401

**WILLIAM BRUCE THOMAS**  
Professional Engineer  
No. 452, State of North Carolina  
Civil Engineering

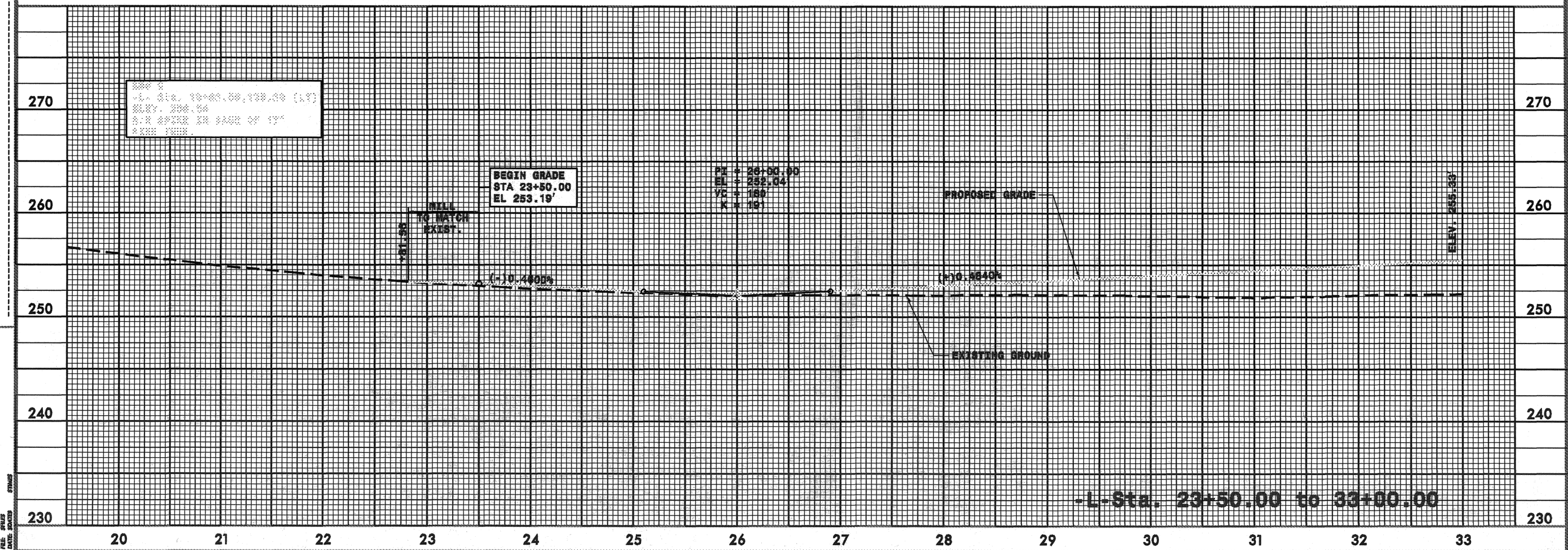
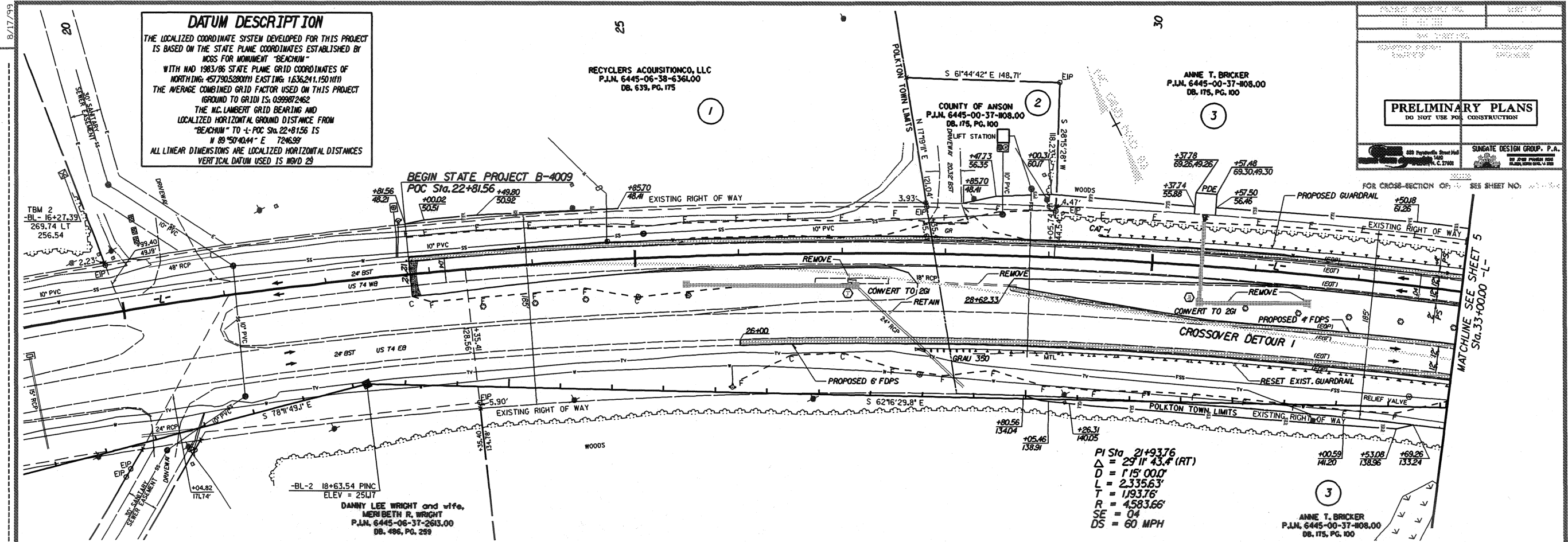


FOR DETOUR USE ONLY



**CROSSOVER DETOUR 2**  
Sta. 46+52.12 to 52+27.00









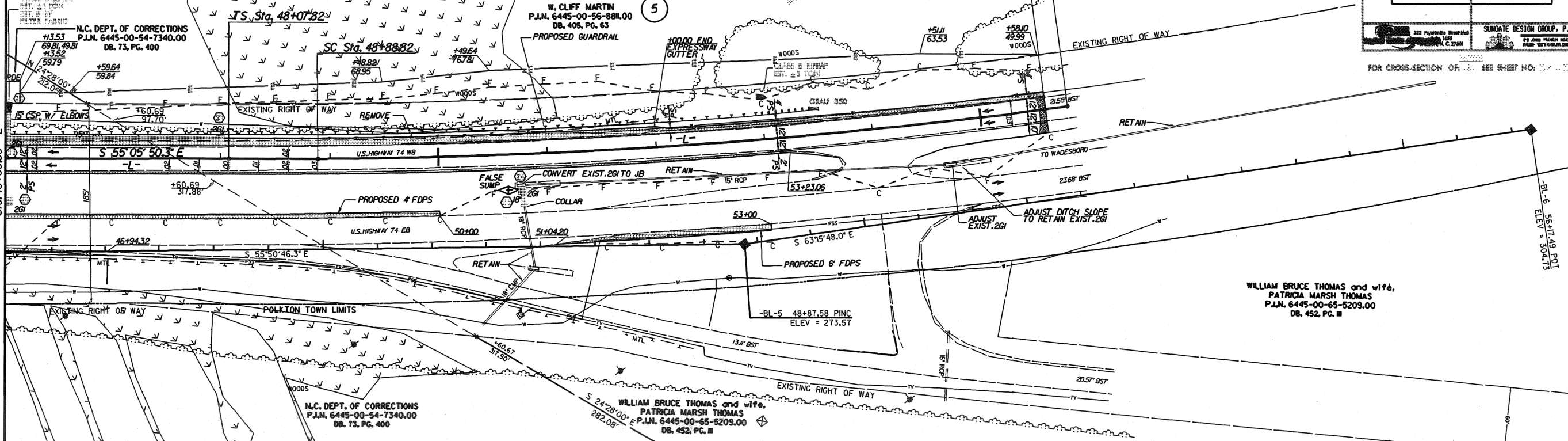


Pls Sta. 48+61.82  
θs = 0° 25' 06.6"  
Ls = 81.00'  
LT = 54.00'  
ST = 27.00'  
SE = 03  
DS = 60 MPH

CLASS B HURAP  
EST. 21 TCH  
FILTER FABRIC

N.C. DEPT. OF CORRECTIONS  
P.L.N. 6445-00-54-7340.00  
DB. 73, PG. 400

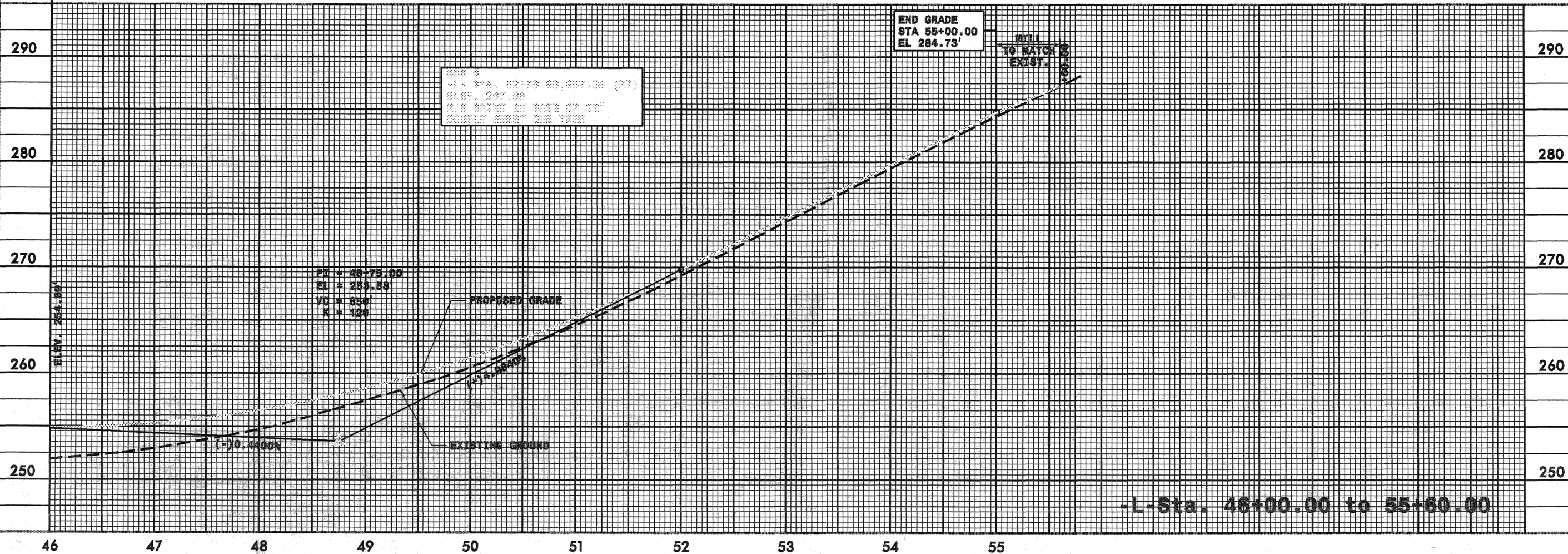
MATCHLINE SEE SHEET 5  
Sta. 46+00.00 -L-



PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

SUNGATE DESIGN GROUP, P.A.  
333 Fayetteville Street, Suite 1400  
Fayetteville, N.C. 27401  
P.L.N. 6445-00-54-7340.00  
DB. 73, PG. 400

FOR CROSS-SECTION OF: SEE SHEET NO. 5





May 31, 2005

Mr. Steve Lund  
U. S. Army Corps of Engineers  
Asheville Regulatory Field Office  
151 Patton Avenue, Room 208  
Asheville, North Carolina 28801-5006

Dear Mr. Lund:

Subject: EEP Mitigation Acceptance Letter

**B-4009**, Replace Bridge 33 over Brown Creek on US 74 Westbound, Anson County; Yadkin River Basin (Cataloging Unit 03040104); Southern Piedmont (SP) Eco-Region

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) proposes to provide high quality preservation to compensate for the unavoidable 0.28 acre of riverine wetland impacts associated with the subject project in the following manner:

**Riverine Wetland Preservation (10:1) in Same Eco-Region**

Drowning Creek II/Rankin (Richmond and Moore Counties) 2.80 acres

The subject TIP project is listed in Exhibit 2 of the Memorandum of Agreement among the North Carolina Department of Environment and Natural Resources, the North Carolina Department of Transportation, and the U. S. Army Corps of Engineers, Wilmington District dated July 22, 2003. The compensatory mitigation for the project will be provided in accordance with Section IX, EEP Transition Period, of the Agreement.

If you have any questions or need additional information, please contact Ms. Beth Harmon at (919) 715-1929.

Sincerely,

A handwritten signature in black ink, appearing to read "James B. Gilmore", with a stylized flourish at the end.

William D. Gilmore, P.E.  
EEP Director

cc: Mr. Phil Harris, Office of Natural Environment, NCDOT  
Mr. John Hennessey, Division of Water Quality, Wetlands/401 Unit  
File: B-4009

*Restoring... Enhancing... Protecting Our State*



North Carolina Ecosystem Enhancement Program, 1652 Mail Service Center, Raleigh, NC 27699-1652 / 919-715-0476 / [www.nceep.net](http://www.nceep.net)



May 31, 2005

Mr. Gregory J. Thorpe, Ph.D.  
Environmental Management Director  
Project Development and Environmental Analysis Branch  
North Carolina Department of Transportation  
1548 Mail Service Center  
Raleigh, NC 27699-1548

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

**B-4009**, Bridge 33 over Brown Creek on US 74 Westbound, Anson  
County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide riverine wetland mitigation for the subject project. Based on the information supplied by you in a letter dated May 11, 2005, the impacts are located in CU 03040104 of the Yadkin River Basin in the Southern Piedmont (SP) Eco-Region, and are as follows:

Riverine Wetland Impacts: 0.28 acre

As stated in your letter, the subject project is listed in Exhibit 2 of the Memorandum of Agreement among the North Carolina Department of Environment and Natural Resources, the North Carolina Department of Transportation, and the U. S. Army Corps of Engineers, Wilmington District dated July 22, 2003. The mitigation for the subject project will be provided in accordance with this agreement.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-715-1929.

Sincerely,

A handwritten signature in black ink that reads "James B. Stumhill Sr".

William D. Gilmore, P.E.  
EEP Director

cc: Mr. Steve Lund, USACE-Asheville  
Mr. John Hennessy, Division of Water Quality, Wetlands/401 Unit  
File: B-4009

*Restoring... Enhancing... Protecting Our State*

North Carolina Ecosystem Enhancement Program, 1652 Mail Service Center, Raleigh, NC 27699-1652 / 919-715-0476 / [www.nceep.net](http://www.nceep.net)



**Westbound US 74  
Bridge No. 33 Over Brown Creek  
Anson County  
Federal-Aid Project: BRNHF-74(42)  
State Project No. 8.1651401  
T.I.P. No. B-4009**

**Categorical Exclusion  
United States Department of Transportation  
Federal Highway Administration  
and  
North Carolina Department of Transportation  
Division of Highways**

Approved

11/25/02  
Date *for* Gregory J. Thorpe  
Gregory J. Thorpe, PhD, Director  
Project Development & Environmental Analysis Branch  
North Carolina Department of Transportation

11/26/02  
Date *for* Clarence W. Coleman, Jr.  
Nicholas L. Graf, P.E.  
Division Administrator  
Federal Highway Administration

Westbound US 74  
Bridge No. 33 Over Brown Creek  
Anson County  
Federal-Aid Project: BRNHF-74(42)  
State Project No. 8.1651401  
T.I.P. No. B-4009

Categorical Exclusion  
United States Department of Transportation  
Federal Highway Administration  
and  
North Carolina Department of Transportation  
Division of Highways

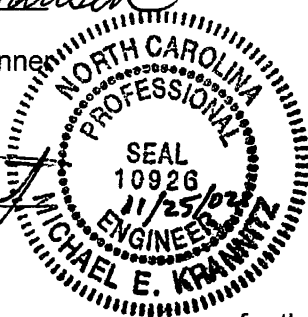
November 2002

Document Prepared by


Wilbur Smith Associates, Inc.


  
Iona L. Hauser  
Senior Environmental Planner

  
Michael Krannitz, P.E.  
Project Manager



for the  
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

  
Teresa Hart, P.E., CPM  
Consultant Unit Head

  
John M. Penney, P. E.  
Project Planning Engineer

# PROJECT COMMITMENTS

Westbound US 74; Bridge No. 33  
Over Brown Creek;  
Anson County  
State Project No.: 8.1651401  
Federal Aid Project No.: BRNHF-74(42)  
TIP No.: B-4009

In addition to the standard Nationwide Permit #33 and #23 Conditions, the General Nationwide Permit Conditions, Section 404 Individual Permit (IP) Special Conditions, Section 401 Water Quality Certification (WQC) Conditions, Regional Conditions, State Consistency Conditions, NCDOT's Guidelines for Best Management Practices for Protection of Surface Waters, NCDOT's Guidelines for Best Management Practices for Bridge Demolition and Removal, General Certification Conditions, and Section 401 Conditions of Certification, the following special commitments have been agreed to by NCDOT:

## Commitments Developed Through Project Development and Design

All commitments developed during the project development and design phase have been incorporated into the design and were standard commitments. Current status, changes, or additions to the project commitments as shown in the environmental document for the project are printed in *italic* font.

### **Design Services/Roadside Environmental/Division 5 Construction**

Ensure that sediment and erosion control measures are not placed in wetlands.

*This standard will be used during design and will be implemented during construction of the project.*

### **Design Services/ Division 5 Construction**

Borrow/waste areas should avoid wetlands to the maximum extent practicable. Prior to the approval of any borrow/waste site in a wetland, the contractor must obtain a 401 certification from DWQ.

*This standard will be used during design and will be implemented during construction of the project.*

### **Division 5 Construction**

Disturbance of the stream channels must be limited to only what is necessary to perform the bridge demolition/removal and construction of the replacement structure. Heavy equipment must be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into the stream.

*This environmental commitment will be implemented during construction of the project.*

### **Division 5 Construction**

All work shall be performed during low flow conditions

*This environmental commitment will be implemented during construction of the project.*

**Westbound US 74  
Bridge No. 33 Over Brown Creek  
Anson County  
Federal-Aid Project: BRNHF-74(42)  
State Project No. 8.1651401  
T.I.P. No. B-4009**

Bridge No. 33 is included in the Draft 2004-2010 North Carolina Department of Transportation (NCDOT) Transportation Improvement Program and the Federal-Aid Bridge Replacement Program. It is scheduled for right-of-way acquisition in FFY 2003 and to begin construction in FFY 2004. The location of this bridge is shown in Figure 1. No substantial environmental impacts are anticipated. The project is classified as a Federal "Categorical Exclusion."

**I. PURPOSE AND NEED**

NCDOT Bridge Maintenance Unit records indicated that Bridge No. 33 has a sufficiency rating of 42.1 out of a possible 100 for a new structure. The bridge is considered functionally obsolete and structurally deficient.

Replacement of this inadequate structure will result in safer and more efficient traffic operations.

**II. EXISTING CONDITIONS**

This project involves the replacement of Bridge No. 33 on the westbound lane of US 74 over Brown Creek in Anson County (See Figure 1). US 74 is classified as a rural principal arterial. Brown Creek is located in the Yadkin River Basin and has a drainage basin area of 93.4 square miles south of the structure. The existing bridge is 643 ft (196 m) long, with a total width of 29 ft (8.8 m) and two 11 (3.4 m) foot travel lanes. The existing bridge consists of reinforced concrete deck girders, trestle bents on concrete piles and two (total of four) concrete post and web bents at both Brown Creek and Little Brown Creek with concrete abutments. There is 26 feet (8 meter) of clear roadway width. The existing bridge is in a horizontal tangent, bents are skewed 90 degrees to the roadway to Brown Creek. Vertical grade on the bridge is relatively flat with both East & West grades falling away from the bridge resulting in good sight distance.

There are no utilities attached to the bridge. An overhead utility line runs parallel to the upstream side of the bridge. A second overhead utility line crosses the roadway 100 feet (30.5 meters) west of the western end bent.

Based on data from the NCDOT Bridge Maintenance, floodwaters have reached the bottom of the bridge beams but never overtopped the road. No debris accumulation or scour was observed around the bents, however bridge scour information for the existing bridge is not available. The channel banks appear to be stable with trees and underbrush. There are wetlands both upstream and downstream of the bridge. The existing bridge built was in 1922 and was reconstructed in 1941.



The posted speed limit is 55 MPH. The 2001 average daily traffic volume is 8,300 vehicles per day (vpd). The projected traffic volume is expected to increase to 17,000 vpd by the design year 2025.

Nine accidents were reported in the vicinity of this bridge during the period from January 1, 1997 to July 31, 2000. Of the nine traffic accidents, six caused property damage and three resulted in injuries. Seven of the nine accidents occurred during wet conditions.

County school buses traverse the bridge 13 times per day.

### III ALTERNATIVES

#### A Project Description

The recommended bridge length is based on a preliminary hydraulic analysis in conjunction with a field reconnaissance of the site. The proposed replacement structure is a bridge approximately 660 ft (201.2 m) long. The proposed bridge grade will be approximately the same as the existing roadway grade. Minimum grade on the bridge is proposed to be 0.3% to facilitate deck drainage. The length of the proposed bridge and the recommended elevation may be adjusted (increased or decreased) to accommodate design floods as determined in the final hydrologic study and hydraulic design. Additional hydraulic analysis will be performed during the final design phase of the project.

The proposed bridge will consist of a typical section of two 12 ft (3.7 m) travel lanes, an 8 ft (2.4 m) interior shoulder, and an 8 ft (2.4 m) outside shoulder.

#### B Build Alternative (Figure 2)

The alternate for replacing Bridge No. 33 is described below.

**Alternate 1 (Preferred)** includes replacement of the existing 643± ft (196± m) structure with a new structure at the existing location. The new structure is proposed to be 660 ft (200 m) in length. The approach work will extend from approximately 360 ft (109.7 m) west to approximately 320 ft (98 m) east of the existing structure. Approach work is limited to grade alterations to accommodate the new structure. Traffic will be maintained with an on-site detour that utilizes the eastbound bridge located adjacent to the replaced westbound bridge during construction. Existing eastbound US 74 will be divided into one lane in each direction. Westbound traffic will cross on a temporary roadway section constructed in the median and utilize the passing lane of existing eastbound US 74. The total project length is approximately 1,340 ft (408 m).

### C. Alternatives Eliminated From Further Study

**Alternate 2** replaces the bridge on its existing alignment with a temporary detour structure placed downstream. The proposed detour structure would be two bridges; one over Brown Creek 110 ft (33.5 m), which has a drainage area of 78 square miles (20253.7 hectares) and one over Little Brown Creek 60 ft (18.3 m), which has a drainage area of 15.2 square miles (3936.8 hectares). The one-lane detour should be placed immediately downstream (in the median) of the existing location. Alternate 2 was eliminated and not considered further because of additional stream impacts and the considerable cost increases associated with the detour structures.

**No Action Alternate** The "do-nothing" alternative would eventually necessitate removal of the bridge effectively removing the westbound section of HWY 74 from traffic service. Investigation of the existing structure by the Bridge Maintenance Unit indicates the rehabilitation of the old bridge is not feasible due to its age and deteriorated condition.

### D. Preferred Alternative

Alternate 1, (the preferred alternative), proposes to replace the existing structure in place with a new bridge approximately 660 ft in length. Alternate 1 was selected because of fewer impacts to wetlands, better horizontal alignment, lower cost detour, and lower total construction costs.

NCDOT Division 10 concurs with Alternate 1 as the preferred alternative.

## IV. ESTIMATED COST

TABLE 1: Estimated Costs

	Alternate 1 (Preferred)	Alternate 2
Structure Removal (Existing)	\$159,506	\$159,506
Structure (Proposed)	\$1,663,200	\$1,663,200
Detour and Approaches	\$210,000	\$566,580
Roadway Approaches	\$881,900	\$895,400
Miscellaneous and Mobilization	\$764,394	\$821,314
Engineering and Contingencies	\$571,000	\$644,000
ROW/Const. Easement/Utilities	\$102,000	\$102,000
Total	\$4,352,000	\$4,852,000

## V. NATURAL RESOURCES

### A. METHODOLOGY

The project study area is located on US 74 over Brown Creek and Little Brown Creek, in Anson County, North Carolina (Figure 1). The bridge is located approximately 0.9 mi (1.4 km) east of the intersection NC 218 and US 74. The project study area comprises an area approximately 3200 ft (976 m) in length and approximately 500 ft (152 m) in width. The project study area is rural in nature and is dominated by forested natural communities and agricultural uses.

The purpose of this study is to provide an evaluation of natural resources in the project study area. Specifically, the tasks performed for this study include: 1) a delineation of jurisdictional wetlands and/or surface waters and preparation of a map depicting the jurisdictional areas based on Global Positioning System (GPS) data; 2) an assessment of natural resource features within the project study area including descriptions of vegetation, wildlife, protected species, streams, wetlands, and water quality; 3) an evaluation of probable impacts resulting from construction and alternatives; and 4) a preliminary determination of permit needs.

Materials and research data in support of this investigation have been derived from a number of sources including applicable United States Geological Survey (USGS) 7.5-minute quadrangle topographic mapping [Polkton, NC (USGS 1970) and Russellville, NC (USGS 1971)], U.S. Fish and Wildlife Service (FWS) National Wetlands Inventory (NWI) mapping, the *Soil Survey of Anson County, North Carolina* (United States Department of Agriculture 2000) as prepared by the Natural Resources Conservation Service (NRCS), and recent aerial photography (scale 1:2400) furnished by Wilbur Smith Associates.

Aerial photography served as the basis for mapping plant communities and wetlands. Plant community patterns were identified from available mapping sources and then field verified. Plant community descriptions were based on a classification system utilized by North Carolina Natural Heritage Program (NHP) (Schafale and Weakley 1990). When appropriate, community classifications were modified to better reflect field observations. Vascular plant names generally follow nomenclature found in Radford *et al.* (1968).

Jurisdictional wetlands were identified using the three parameter approach (hydrophytic vegetation, hydric soils, wetland hydrology) following U.S. Army Corps of Engineers (COE) delineation guidelines (DOA 1987). Jurisdictional areas were characterized according to a classification scheme established by Cowardin *et al.* (1979). Jurisdictional surface waters (*i.e.*, streams) were delineated pursuant to current COE and North Carolina Division of Water Quality (DWQ) protocol. All jurisdictional areas were located using Trimble™ GPS units and the collected data were differentially corrected and plotted to produce working maps and site plans.

Water quality information for area streams and tributaries was obtained from the *Yadkin-Pee Dee Basinwide Water Quality Management Plan* (DWQ 1998), and the North Carolina Department of Environment and Natural Resources (DENR). Quantitative sampling was not undertaken to support existing data. Benthic macroinvertebrates were collected using current DWQ protocol. Fish populations were sampled using seine and dip nets. Fisheries sampling is conducted by Environmental Services, Inc. (ESI) under North Carolina Wildlife Resources Commission (NCWRC) Permit # 0616.

Additional resources utilized for this natural systems investigation include the most recent list (March 7, 2002) of federally Threatened and Endangered species by county published by FWS. Records kept by the North Carolina Natural Heritage Program (NHP) were also reviewed on June 4, 2001 and periodically updated to determine if there are any documented cases of listed species occurring within 3.0 miles (mi) [4.8 kilometers (km)] of the project study area (most recent update February 25, 2002). Habitat used by terrestrial wildlife and aquatic organisms, as well as expected population distributions, were determined through field observations, evaluation of available habitat, and supportive documentation (Martof *et al.* 1980, Webster *et al.* 1985, Menhinick 1991, Hamel 1992, Rohde *et al.* 1994, Palmer and Braswell 1995).

## **B. Physiography and Soils**

The project study area is located in the Piedmont physiographic province. Topography in the project study area is generally characterized as nearly level to gently sloping. Elevations in the project study area range from 240 ft to 275 ft (73 m to 84 m) above mean sea level (USGS 1970 and 1971).

The project study area contains two soil mapping units (USDA 2000). Wehadkee loam (Typic Fluvaquents) is a hydric soil. Chewacla loam (Fluvaquentic Dystrochrepts) is non-hydric soil that may contain hydric inclusions of Wehadkee loam in depressions adjoining upland side slopes (USDA 2000).

## **C. WATER RESOURCES**

### **1. Waters Impacted**

The project study area is located within sub-basin of the Yadkin-Pee Dee River Basin (DWQ 1998) and is part of USGS hydrologic unit 03040104 (USGS 1974). Brown Creek originates north of Pageland, South Carolina, and flows in a northerly direction through the project study area to its confluence with the Pee Dee River on the Anson/Richmond County line. Brown Creek, from the North Carolina–South Carolina State Line to the Pee Dee River, has been assigned Stream Index Number (SIN) 13-20 (DENR 2002a, DWQ 1998).

Little Brown Creek originates in Wadesboro, North Carolina, north of US 220, and flows in a northerly direction through the project study area to its confluence with Brown Creek. Little Brown Creek, from its source to Brown Creek, has been assigned SIN 13-20-1 (DENR 2002a, DWQ 1998).

## **2. WATER RESOURCE CHARACTERISTICS**

A Best Usage Classification is assigned to waters of the State of North Carolina based on the existing or contemplated best usage of various streams or segments of streams in the basin. The reach of Brown Creek within the project study area has been assigned a Best Usage Classification of **C** (DEM 1993, DENR 2002a). The reach of Little Brown Creek within the project study area has also been assigned a best usage classification of **C** (DEM 1993, DENR 2001b). The **C** designation indicates freshwaters that support aquatic life propagation and survival, fishing, wildlife, secondary recreation, and agriculture. Secondary recreation is any activity involving human body contact with water on an infrequent or incidental basis.

No Outstanding Resource Waters (**ORW**), High Quality Waters (**HQW**), **WS-I** or **WS-II** Waters occur within 3.0 mi (4.8 km) upstream or downstream of the project study area (DEM 1993, DENR 2002a). Neither Brown Creek nor Little Brown Creek is designated as a North Carolina Natural and Scenic River, or as a national Wild and Scenic River.

The National Pollutant Discharge Elimination System (NPDES) regulates permits for projects involving the construction, alteration, and/or operation of any sewer system, treatment works or disposal system and certain stormwater runoff, which would result in a discharge into surface waters (DPA 1991). Point source discharges of treated wastewater are permitted in these waters, pursuant to Rules .0104 and .0211 of 15A NCAC 2B; however, local programs to control nonpoint source and stormwater discharge of pollution are required. There are no permitted point source dischargers located on Brown Creek, Little Brown Creek, or its associated tributaries (DENR 2002b).

The Benthic Macroinvertebrate Ambient Network (BMAN) addresses long-term trends in water quality at monitoring sites by sampling for selected benthic macroinvertebrates (DEM 1989). This program has been replaced by the benthic macroinvertebrate monitoring program associated with the basinwide water quality management plan for the Yadkin-Pee Dee River Basin (DWQ 1998). DWQ assigns bioclassifications to streams and portions of streams based on species richness and overall biomass, which are considered reflections of water quality. There is one benthic macroinvertebrate sampling station located on Brown Creek. This site is located in the Pee Dee National Wildlife Refuge at SR 1627 approximately 9.2 mi (14.7 km) downstream from the project study area. This location received a rating of Fair in

1996 (DWQ 1998, DENR 2002c). There are no benthic monitoring stations located on Little Brown Creek.

Another measure of water quality being used by the DWQ is the North Carolina Index of Biotic Integrity (NCIBI), which assesses biological integrity using the structure and health of the fish community. Brown Creek was sampled in 1996 at SR 1230 approximately 10.8 mi (17.4 km) upstream from the project study area. This location received a NCIBI rating of Good (DWQ 1998, DENR 2002c). No sampling has been conducted in Little Brown Creek.

### **3. Potential Impacts to Water Resources**

Neither High Quality Waters (HWQ), Water Supplies (WS-I: undeveloped watershed, or WS-II: Predominantly undeveloped watersheds), nor Outstanding Resource Waters (ORW) occur within one mile (1.6 kilometers) of the project area.

Impacts to the water resources will result due to the placement of support structures in the creek channel. In the short term, construction of the bridge and approach work will increase sediment loads. Sediment loading can reduce flow and result in a decrease in oxygen levels. The removal of trees that provide shade along the stream banks could result in an increase in water temperature and a decrease in oxygen levels as well.

The NCDOT, in conjunction with the Division of Water Quality has developed a sedimentation control program for highway projects which adopts formal best management practices (BMPs) for the protection of surface waters. The following are methods to reduce sedimentation and water quality impacts:

- Strict adherence to BMPs for the protection of surface waters during the life of the project;
- Reduction and elimination of direct and non-point discharge into the water bodies and minimization of activities conducted in the creek;
- Placement of temporary ground cover or re-seeding of disturbed sites to reduce runoff and decrease sediment loadings; and
- Reduction of clearing and grubbing along the creek.

### **4. Impacts Related to Bridge Demolition and Removal**

In order to protect the water quality and aquatic life in the area affected by this project, the NCDOT and all potential contractors will follow appropriate guidelines for bridge demolition and removal. The guidelines are presented in three NCDOT documents

entitled "Pre-Construction Guidelines for Bridge Demolition and Removal," "Policy: Bridge Demolition and Removal in Waters of the United States," and "Best Management Practices for Bridge Demolition and Removal." Guidelines followed for bridge demolition and removal are in addition to those implemented for Best Management Practices of the Protection of Surface Waters.

The superstructure consists of concrete deck girders. Although these components are slated for removal in a manner, which will avoid dropping any component into Brown Creek or Little Brown Creek, the potential exists for temporary fill of up to 310 cubic yards (237 cubic meters).

The substructure includes fourteen (14) concrete interior bents, five (5) of which are located within the stream channel. Although these components are slated for removal in a manner, which will avoid dropping any component into Brown Creek or Little Brown Creek, the potential exists for temporary fill of up to 235 cubic yards (180 cubic meters).

Bridge components are slated for removal in a manner, which will avoid dropping any bridge components into Brown Creek. However, due to the presence of concrete in both the superstructure and substructure of the bridge, the maximum fill is 545 cubic yards (417 cubic meters) as a result of demolition activities.

No adverse long-term impacts to water resources are expected to result from the alternative being considered.

## **D. BIOTIC RESOURCES**

### **1. Existing Vegetation Patterns**

Terrestrial distribution and composition of vegetation communities throughout the project study area reflect landscape-level variations in topography, soils, hydrology, and past and present land use practices. When appropriate, the vegetation community names have been adopted and modified from the NHP classification system (Schafale and Weakley 1990) and the descriptions written to reflect local variations within the project study area. Two natural communities were identified within the project study area: Piedmont/Low Mountain Alluvial Forest and Successional Land. In addition to the natural communities, there are also areas of maintained/disturbed land.

Piedmont/Low Mountain Alluvial Forest - Piedmont/low mountain alluvial forests are located in river and stream floodplains in which separate fluvial landforms and associated vegetation zones are too small to distinguish. These floodplains are seasonally or intermittently flooded. The Piedmont/low mountain alluvial forest within the project study area is located adjacent Brown Creek and Little Brown Creek. This

community is forested with an open to dense understory or shrub layer and sparse to dense diverse herb layer. Canopy species include American sycamore (*Platanus occidentalis*), green ash (*Fraxinus pennsylvanica*), slippery elm (*Ulmus rubra*), river birch (*Betula nigra*), willow oak (*Quercus phellos*), water oak (*Quercus nigra*), and tulip poplar (*Liriodendron tulipifera*). Understory species include ironwood (*Carpinus caroliniana*), Chinese privet (*Ligustrum sinense*), and boxelder (*Acer negundo*). Herbaceous species typically found in this community include yellow jessamine (*Gelsemium sempervirens*), ebony spleenwort (*Asplenium platyneuron*), Christmas fern (*Polystichum acrostichoides*), muscadine grape (*Vitis rotundifolia*), and poison ivy (*Toxicodendron radicans*).

**Successional Land** – Successional Land includes clear cut areas and other types of communities that have been recently disturbed such that the plant community is young and consists of early successional or opportunistic species. These communities are in the process of gradually reverting to a former vegetated community type, resembling a Piedmont/low mountain alluvial forest, unless disturbed again. The layer of shrubs and young trees that occupy this land consists of black willow (*Salix nigra*), red maple (*Acer rubrum*), tulip poplar, sweetgum (*Liquidambar styraciflua*), river birch, and water oak.

**Maintained/Disturbed Land** – The maintained/disturbed land within the project study area include such areas as roadsides, residential areas, and dirt roads/driveways and are dominated by a mixture of ornamental and early successional species. Typical species observed in this community are broom sedge (*Andropogon virginicus*), plantain (*Plantago* spp.), and various maintained roadside grasses including fescue (*Festuca* spp.), and Bermuda grass (*Cynodon dactylon*), wild onion (*Allium canadense*), dog fennel (*Eupatorium capillifolium*), and golden rod (*Solidago* sp.).

#### **a. Potential Impacts to Vegetation Communities**

Potential impacts to vegetation communities are estimated based on the area of each vegetation community present within the proposed construction limits. A summary of potential impacts to vegetation communities is presented in Table 2 in acres (ac) and hectares (ha).



Table 2. Potential Impacts to Vegetation Communities.

VEGETATION COMMUNITY	Potential Impacts Acres (hectares)			
	Alternative 1 (Preferred)		Alternative 2	
	Impacts	Temp. Construction Impacts <sup>a</sup>	Impacts	Temp. Construction Impacts <sup>a</sup>
<b>Piedmont/Low Mountain Alluvial Forest</b>	0.16 ac (0.06 ha)	0.67 ac (0.27 ha)	0.16 ac (0.06 ha)	0.60 ac (0.24 ha)
<b>Successional Land</b>	1.03 ac (0.42 ha)	0.97 ac (0.39 ha)	1.00 ac (0.40 ha)	1.62 ac (0.66 ha)
<b>Maintained/Disturbed Land</b>	0.88 ac (0.36 ha)	0.52 ac (0.21 ha)	1.89 ac (0.77 ha)	1.62 ac (0.66 ha)
<b>Total:</b>	2.07 ac (0.84 ha)	2.16 ac (0.87 ha)	3.05 ac (1.23 ha)	3.84 ac (1.56 ha)
<b>Total for Alternative<sup>b</sup>:</b>	4.23 ac (1.71 ha)		6.89 ac (2.79 ha)	

<sup>a</sup> Temporary construction impacts are based on the portion of the impacts not included in the construction limits for the permanent structure.

<sup>b</sup> Totals for vegetation communities do not include the open water area attributed to Brown Creek and Little Brown Creek or impervious road surface.

Potential impacts associated with a bridge replacement are generally limited to narrow strips adjacent to the existing bridge structure and roadway approach segments. Both alternatives have similar potential permanent impacts to the Piedmont/Low Mountain Alluvial Forest Community. However, potential impacts associated with Alternative 2 are higher than those associated with Alternative 1 due to the use of a temporary on-site detour. Additional potential impacts associated with Alternative 2 are generally limited to communities that are already significantly disturbed (successional land, maintained/disturbed land).

## 2. Wildlife

The project study area was visually surveyed for signs of terrestrial and aquatic wildlife. Little evidence of wildlife was observed during the field effort. Forests along streams such as Brown Creek and Little Brown Creek provide cover, food and function as a migration corridor linking areas of more optimal habitats. Other expected wildlife species are those adapted to ecotones between the maintained roadsides and adjacent natural forest.

### a. Terrestrial

Bird species observed include the barn swallow (*Hirundo rustica*), Carolina wren (*Thryothorus ludovicianus*), northern parula (*Parula americana*), eastern towhee (*Pipilo erythrophthalmus*), and indigo bunting (*Passerina cyanea*). Other species expected to occur in and around the project study area include great blue heron

(*Ardea herodias*), red shouldered hawk (*Buteo lineatus*), and belted kingfisher (*Megasceryle alcyon*).

Few mammal signs were observed within the project study area. Species documented from the project study area include beaver (*Castor canadensis*) and white-tailed deer (*Odocoileus virginiana*). Other species expected to be found in and around the project study area include raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), red fox (*Vulpes vulpes*), gray squirrel (*Sciurus carolinensis*), and eastern cottontail (*Sylvilagus floridanus*).

One species of terrestrial reptile, eastern box turtle (*Terrapene carolina*), was observed within the project study area. Other species expected to occur within the project study area include eastern garter snake (*Thamnophis sirtalis*), ringneck snake (*Diadophis punctatus*), and black rat snake (*Elaphe obsoleta*).

Two species of terrestrial amphibian, Fowler's toad (*Bufo woodhousei*) and northern cricket frog (*Acris crepitans*), were observed within the project study area. Other species expected to occur within the project study area include white-spotted slimy salamander (*Plethodon cylindraceus*), marbled salamander (*Ambystoma opacum*), and spring peeper (*Pseudacris crucifer*).

### 3. Aquatic

The aquatic habitat located within the project study area includes Brown Creek and Little Brown Creek. Limited seining, dip-netting, and visual observation of stream banks and channel within the project study area were conducted in Brown Creek. No electro-shocking was conducted in Brown Creek or Little Brown Creek to minimize potential impacts to freshwater mussel populations.

Benthic invertebrate organisms collected within the project study area were identified to at least Order and Family, if possible (McCafferty 1998), and includes: the dragonflies and damselflies (Odonata: Libellulidae, Protoneuridae), midges (Diptera: Chironomidae), water boatmen (Hemiptera: Corixidae), mayflies (Ephemeroptera: Caenidae, Baetidae), beetles (Coleoptera: Dytiscidae), scuds (Amphipoda), water mites (Arachnida: Hydracarina), freshwater leeches (Annelida: Hirudinea), freshwater mussels (Pelecypoda: Unionidae), freshwater clams (Pelecypoda: Sphaeriidae), and campeloma snails (Gastropoda: Viviparidae).

Brown Creek and Little Brown Creek were surveyed on August 3<sup>rd</sup> and 30<sup>th</sup>, 2001, to determine presence/absence of the federally endangered Carolina heelsplitter under the supervision of NCDOT biologist Tim Savidge. Freshwater mussels observed during the survey included the eastern creekshell (*Villosa delumbis*), eastern floater

(*Pyganodon cataracta*), eastern elliptio (*Elliptio complanata* complex), creeper (*Strophitus undulatus*), lampmussel (*Lampsilis* sp.), and pondhorn (*Uniomerus* sp.).

The presence of potentially suitable habitat for a Federally endangered mussel species precluded electro-shocking to sample the resident fish populations. Fish species expected to occur within the project study area include chain pickerel (*Esox niger*), redbfin pickerel (*Esox americanus*), golden shiner (*Notemigonus crysoleucas*), whitemouth shiner (*Notropis alborus*), pirate perch (*Aphredoderus sayanus*), eastern mosquitofish (*Gambusia holbrooki*), green sunfish (*Lepomis cyanellus*), redbreasted sunfish (*L. auritus*), warmouth (*L. gulosus*), bluegill (*L. macrochirus*), pumpkinseed (*L. gibbosus*), and tessellated darter (*Etheostoma olmstedii*).

One aquatic reptile species, redbelly watersnake (*Nerodia erythrogaster*), was observed within the project study area. Other species expected to occur within the project study area include northern water snake (*Nerodia sipedon*), snapping turtle (*Chelydra serpentina*) and eastern painted turtle (*Chrysemys scripta*).

Two aquatic amphibian species were observed within the project study area, bullfrog (*Rana catesbeiana*) and southern leopard frogs (*R. utricularia*). Other species expected to occur within the project study area include such species as green frog (*Rana clamitans*) and pickerel frog (*R. palustris*).

#### **4. Potential Impacts to Wildlife**

Due to the lack of, or limited, infringement on natural communities, the proposed bridge replacement will not result in significant loss or displacement of known animal populations. Wildlife movement corridors are not expected to be significantly altered by the proposed project. Potential down-stream impacts to aquatic habitat will be avoided by bridging Long Creek to maintain regular flow and stream integrity. Temporary impacts to downstream habitat from increased sediment during construction are expected to be minimized by limiting in-stream work to an absolute minimum and use of a turbidity curtain during construction, except for the removal of the portion of the sub-structure below the water. Best Management Practices for Bridge Demolition and Removal (BMP-BDRs) will be followed to minimize impacts due to anticipated bridge demolition. BMPs for the protection of surface should be strictly enforced to reduce impacts.

### **E. SPECIAL TOPICS**

#### **1. Waters of the United States**

Surface waters within the embankments of Brown Creek and Little Brown Creek are subject to jurisdictional consideration under Section 404 of the Clean Water Act as "waters of the United States" (33 CFR 328.3). The waters in Brown Creek within the

project study area exhibit characteristics of riverine, lower perennial, unconsolidated bottom, permanently flooded (R2UB1) waters (Cowardin *et al.* 1979). The waters of Little Brown Creek within the project study area exhibit characteristics of riverine, lower perennial, unconsolidated bottom, saturated, permanently flooded, excavated (R2UBHx) waters (Cowardin *et al.* 1979).

Brown Creek is a perennial stream with moderate to slow flow over substrate consisting of sand and silt. The main channel is approximately 50 ft (15 m) wide and approximately 10 ft (3 m) deep. A geomorphic characterization of the channel section within the project study area indicates Brown Creek is a "G" stream type (Rosgen 1996). This stream type occurs in narrow valleys and is unstable, with grade control problems and high bank erosion rates. The "G" designation indicates that the stream is an entrenched "gully" with a low width/depth ratio on moderate gradients (Rosgen 1996).

Little Brown Creek is a perennial stream with substrate consisting of sand and silt. No flow was observed in August 3, 2001 and the stream had been reduced to a series of isolated pools. Perennial status was determined by the presence of live mussel beds. The main channel is approximately 25 ft (8 m) wide and approximately 5 ft (2 m) deep. A geomorphic characterization of the stream section within the project study area indicates Little Brown Creek is a "G" stream type (Rosgen 1996).

Wetlands subject to review under Section 404 of the Clean Water Act (33 U.S.C. 1344) are defined by the presence of three criteria: hydric soils, hydrophytic vegetation, and evidence of hydrology within 12 inches [31 centimeters (cm)] the soil surface for a portion (12.5 percent) of the growing season (DOA 1987). Based on the three parameter approach, four (4) jurisdictional wetlands are located within the project study area. Vegetation within these areas is hydrophytic in nature and includes black willow, sweetgum, Chinese privet, and cat tail (*Typha latifolia*). Soils exhibit hydric characteristics (Munsell color 10 YR 5/2 with 2.5YR 4/6 mottles). Hydrological indicators observed include the presence of water stained leaves and saturation within 12 inches (31 cm) of the soil surface. Wetlands within the project study area described as palustrine, forested, broad-leaved deciduous, seasonally flooded (PFO1C) wetland (Cowardin 1979). A summary of potential wetland impacts are presented in Table 2.

#### **a. Potential Impacts to Waters of the United States**

Potential impacts to open water areas are estimated based on the amount of each jurisdictional area within the proposed construction limits. Open water areas of Brown Creek (R2UB1) and Little Brown Creek (R2UBHx) are included in Table 2, although impacts are not expected due to the use of channel-spanning structures. During bridge removal procedures, NCDOT's BMP's will be utilized, including erosion control measures; therefore it is anticipated that removing the existing end

bents will result in no impact to surrounding surface waters. A summary of potential jurisdictional impacts is presented in Table 3 in acres and hectares or linear feet and meters, as appropriate.

Table 3. Potential Impacts to Jurisdictional Areas.

JURISDICTIONAL AREAS	Potential Wetlands Impacts Acres (hectares)			
	Alternative 1 (Preferred)		Alternative 2	
	Impacts	Temporary Construction Impacts <sup>a</sup>	Impacts	Temporary Construction Impacts <sup>a</sup>
PFO1C	0.00	0.00	0.00	0.41 ac (0.17 ha)
R2UB1 (Brown Creek)	0.08 ac (0.03 ha)	0.13 ac (0.05 ha)	0.08 ac (0.03 ha)	0.13 ac (0.05 ha)
R2UBHx (Little Brown Creek)	0.02 ac (0.01 ha)	0.05 ac (0.02 ha)	0.02 ac (0.01 ha)	0.05 ac (0.02 ha)
Total:	0.10 ac (0.04 ha)	0.18 ac (0.07 ha)	0.10 ac (0.04 ha)	0.59 ac (0.24 ha)
Total Wetlands Impacts:	0.28 ac (0.11 ha)		0.69 ac (0.28 ha)	
Potential Stream Impacts Linear feet (meters)				
Brown Creek	45 lin. Ft (14 m)	140 lin. ft (43 m)	45 lin. ft (14 m)	140 lin. ft (43 m)
Little Brown Creek	45 lin. Ft (14 m)	85 lin. Ft (26 m)	45 lin. ft (14 m)	85 lin. ft (26 m)
Total:	90 lin. ft (27 m)	225 lin. ft (69 m)	90 lin. Ft (27 m)	225 lin. ft (69 m)
Total Stream Impacts:	315 lin. ft (96 m)		315 lin. ft (96 m)	

<sup>a</sup> Temporary construction impacts are based on the portion of the impacts not included in the construction limits for the permanent structure.

Both alternatives avoid potential permanent impacts to jurisdictional wetlands. Alternative 1 avoids potential temporary impacts to jurisdictional wetlands, while Alternative 2 has potential temporary impacts to jurisdictional wetlands. Neither alternative will cause shading of jurisdictional wetlands. The potential permanent and temporary impacts to surface waters are similar for both alternatives.

## 2. Permits

### a. Section 404 of the Clean Water Act

In accordance with Section 404 of the Clean Water Act (33 U.S.C. 1344), a permit is required from the US Army Corps of Engineers (USACE) for projects of

this type for the discharge of dredged or fill material into "Waters of the United States." The USACE issues two types of permits for these activities. A general permit may be issued on a nationwide or regional basis for a category or categories of activities when: those activities are substantially similar in nature and cause only a minimal individual or cumulative environmental impacts, or when the general permit would result in avoiding unnecessary duplication of regulatory control exercised by another Federal, state, or local agency provided that the environmental consequences of the action are individually and cumulatively minimal. If a general permit is not appropriate for a particular activity, then an individual permit must be utilized. Individual permits are authorized on a case-by-case evaluation of a specific project involving the proposed discharges.

It is anticipated that this project will fall under Nationwide Permit 23, which is a type of general permit. Nationwide Permit 23 is relevant to approved Categorical Exclusions. This permit authorizes any activities, work and discharges undertaken, assisted, authorized, regulated, funded or financed, in whole or in part, by another Federal agency and that the activity is "categorically excluded" from environmental documentation because it is included within a category of actions, which neither individually nor cumulatively have a significant effect on the environment. Activities authorized under nationwide permits must satisfy all terms and conditions of the particular permit. However, final permit decisions are left to the discretionary authority of the USACE.

#### **b. Section 401 Water Quality Certification**

A 401 Water Quality Certification, administered through the Division of Water Quality, will also be required. This certification is issued for any activity which may result in a discharge into waters for which a federal permit is required. According to the Division of Water Quality one condition of the permit is that the appropriate sediment and erosion control practices must be utilized to prevent exceeding the appropriate turbidity water quality standard.

#### **c. Bridge Demolition and Removal**

Section 402-2 of NCDOT's "Standard Specifications for Roads and Structures" is labeled *Removal of Existing Structure*. This section outlines restrictions and Best Management Practices for Bridge Demolition and Removal (BMP-BDRs) as well as guidelines for calculating maximum potential fill in the creek resulting from demolition. After construction activities are completed, abandoned approaches associated with the existing structure and/or temporary detours will be removed and revegetated in accordance with NCDOT guidelines. This project falls under "Case 3" of the BMP-BDR, which requires no special restrictions beyond those

outlined in the BMPs for Protection of Surface Waters and BMPs for Bridge Demolition and Removal (NCDOT 1999).

#### **d. Coast Guard**

Bridge replacement of construction over navigable waters used for commerce or that have a maintained navigation channel may require U.S. Coast Guard (USCG) authorization pursuant to 33 CFR 114-115. Brown Creek is not classified as a navigable water; therefore USCG authorization is not required.

### **3. Mitigation Evaluation**

**Avoidance** – Due to the presence of surface waters and wetlands within the project study area, avoidance of all impacts is not possible. The proposed alternative minimizes impacts to wetlands. Wetland and stream impacts are previously discussed in Section 4.1.1.

**Minimization** – The alternatives presented were developed in part to demonstrate minimization of stream impacts. Impacts to the stream will be minimized during demolition by removing bridge components in a manner, which will avoid dropping any components into the creek channel. Bridge demolition impacts have been previously discussed in Section 2.2. Employing 2:1 slopes where practicable can further minimize wetland impacts.

**Mitigation** - Compensatory mitigation is not anticipated for this project due to the limited nature of project impacts. However, utilization of BMPs is recommended in an effort to minimize impacts, including avoiding placing staging areas within wetlands. Temporary impacts associated with the construction activities could be mitigated by replanting disturbed areas with native species and removal of any temporary fill material within the floodplain upon project completion. Final mitigation requirements rest with the COE. Mitigation may be required for wetland impacts >0.1 ac (>0.04 ha).

## **F. Protected Species**

### **1. Federal Protected Species**

Species with the federal classification of Endangered (E) or Threatened (T), or officially proposed (P) for such listing, are protected under the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). The following federal protected species are listed for Anson County (US Fish and Wildlife Service list dated March 7, 2002).

Table 4. Federally Protected Species.

Common Name	Scientific Name	Status	Biological Conclusion
Shortnose sturgeon	<i>Acipenser brevirostrum</i>	E	No Effect
Bald eagle	<i>Haliaeetus leucocephalus</i>	T	No Effect
Red-cockaded woodpecker	<i>Picoides borealis</i>	E	No Effect
Carolina heelsplitter	<i>Lasmigona decorata</i>	E	No Effect
Schweinitz's sunflower	<i>Helianthus schweinitzii</i>	E	No Effect

**Shortnose sturgeon** - The shortnose sturgeon is an anadromous, bottom-feeding fish, which spends most of the year in estuarine environments and moves into fresh water only when spawning (Gilbert 1989). Shortnose sturgeons are unmistakable in appearance; size, snout characteristics, and the absence of scutes between the anal fin and lateral row of scutes distinguish shortnose sturgeon from Atlantic sturgeon (*A. oxyrinchus*), which occurs within the same range (Rohde *et al.* 1994). Adult shortnose sturgeon range in size from approximately 1.4 to 3.6 ft (0.4 to 1.1 m) and have a short snout and wide mouth (Rohde *et al.* 1994). This species occurs in Atlantic seaboard rivers from the St. Johns River, Florida, to eastern Canada.

Shortnose sturgeon occupies different habitats and occurs at different depths at different times of the year; seasonal habitat requirements described here are based on Burkhead and Jenkins (1991). In the fall and winter, shortnose sturgeon are typically found in estuaries and lower sections of large rivers at depths of 33 to 100 ft (10 to 30 m); some adults reportedly move into the Atlantic Ocean as well. In the summer, adults are found in waters 6 to 33 ft (2 to 10 m) in depth. Shortnose sturgeon migrate upstream to spawn near the Fall Line at sites having swift water flow over gravel and rubble. Juveniles reportedly remain in deeper portions of the lower reaches of rivers in areas just above the salt wedge (Burkhead and Jenkins 1991).

#### **Biological Conclusion: No Effect**

NHP records do not document any occurrences of the shortnose sturgeon within 3.0 mi (4.8 km) of the project study area. Neither Brown Creek nor Little Brown Creek offer suitable spawning habitat for the shortnose sturgeon. This species requires a swift water flow over gravel and rubble. These creeks are slow flowing streams with a sandy substrate. Brown Creek and Little Brown Creek are upstream of the Blewett Falls Dam which impedes the migration of shortnose sturgeon. The area upstream of this dam is not considered to be accessible for anadromous fish spawning areas. This project will not affect the shortnose sturgeon.

**Bald eagle** - The bald eagle is a large raptor with a wingspan greater than 6 ft (2 m). Adult bald eagles are dark brown with white head and tail. Immature eagles are brown



with whitish mottling on their tail, belly, and wing linings. Bald eagles typically feed on fish but may also take birds and small mammals. In the Carolinas, nesting season extends from December through May (Potter *et al.* 1980).

Bald eagles typically nest in tall, living trees in a conspicuous location near water and forage over large bodies of water with adjacent trees available for perching (Hamel 1992). Preventing disturbance activities within a primary zone extending 750 to 1500 ft (229 to 457 m) outward from a nest tree is considered critical for maintaining acceptable conditions for eagles (FWS 1987). FWS recommends avoiding any disturbance activities, including construction and tree-cutting, within this primary zone. Within a secondary zone extending from the primary zone boundary out to a distance of 1.0 mi (1.6 km) from a nest tree, construction and land-clearing activities should be restricted to the non-nesting period. FWS also recommends avoiding alteration of natural shorelines where bald eagles forage, and avoiding significant land-clearing activities within 1500 ft (457 m) of roosting sites.

**Biological Conclusion: No Effect**

NHP records do not document any occurrences of bald eagle nests within 3.0 mi (4.8 km) of the project study area. The project study area does not contain large areas of open water, and therefore is not considered to be suitable nesting or foraging habitat for bald eagles. This project should not affect on the bald eagle.

**Red-cockaded woodpecker (RCW)** - This small woodpecker [7.0 to 8.5 inches (19.3 to 23.4 cm) long], has a black head, prominent white cheek patch, and black-and-white barred back. Males often have red markings (cockades) behind the eye, but the cockades may be absent or difficult to see (Potter *et al.* 1980). Primary habitat consists of mature to over-mature southern pine forests dominated by loblolly (*Pinus taeda*), long-leaf (*P. palustris*), slash (*P. elliotii*), and pond (*P. serotina*) pines (Henry 1989). Primary nest sites for RCWs include open pine stands greater than 60 years of age with little or no mid-story development. Nest cavity trees tend to occur in clusters, which are referred to as colonies (FWS 1985). Foraging habitat is comprised of open pine or pine/mixed hardwood stands 30 years of age or older. Pine flatwoods or pine-dominated savannas which have been maintained by frequent natural fires serve as ideal nesting and foraging sites for this woodpecker. Development of a thick understory may result in abandonment of cavity trees. The woodpecker drills holes into the bark around the cavity entrance, resulting in a shiny, resinous buildup around the entrance that allows for easy detection of active nest trees (Henry 1989).

**Biological Conclusion: No Effect**

NHP records do not document any occurrences of the RCW within 3.0 mi (4.8 km) of the project study area. The project study area does not contain potential nesting or foraging habitat for this species. No large

contiguous pine stands greater than 60 years old that are suitable for nesting nor large contiguous pine stands greater than 30 years old suitable for foraging occur within the project study area. This project should not affect the RCW.

**Carolina heelsplitter.** The Carolina heelsplitter is a small native freshwater mussel. Individuals grow to approximately 4.5 inches (12.4 cm) in length, 2.6 inches (7.2 cm) in height, and 1.5 inches (4.1 cm) in width. Juveniles may be yellowish, greenish, or brown, and have greenish or blackish rays; adults tend to be darker (Clarke 1985).

Carolina heelsplitter is thought to be endemic to the Pee Dee and Wateree-Santee River systems of the Carolinas. This species is currently known to be extant at only a few sites in Union County, North Carolina, and Chesterfield, Lancaster, and Kershaw Counties in South Carolina. In Union County, Carolina heelsplitter has been recently documented as occurring in Goose Creek and Duck Creek of the Rocky River drainage system, and Waxhaw Creek of the Catawba River drainage system.

Potentially suitable habitat for Carolina heelsplitter is along the banks of stable, shaded, perennial streams and small rivers that have slow to moderate current (Keferl 1991). Substrate where Carolina heelsplitter has been found is described as composed of muddy-sand, muddy-gravel, clay-gravel, sandy-gravel, or sand; however, this species does not tolerate heavy silt deposits (Keferl 1991).

**Biological Conclusion: No Effect**

NHP records do not document any occurrences of Carolina heelsplitter within 3.0 mi (4.8 km) of the project study area. Suitable habitat for the Carolina heelsplitter does exist within the project study area. Brown Creek and Little Brown Creek were surveyed on August 29, 2001 under the supervision of NCDOT biologist. The site was revisited by NCDOT biologists a second review in October 2001. Field investigations show no evidence of Carolina heelsplitter within the project study area.

**Schweinitz's sunflower** - Schweinitz's sunflower is an erect, unbranched, rhizomatous, perennial herb that grows to approximately 6 ft (2 m) in height. The stem may be purple, usually pubescent, but sometimes nearly smooth. Leaves are sessile, opposite on the lower stem but alternate above; in shape they are lanceolate and average 5 to 10 times as long as wide. The leaves are rather thick and stiff, with a few small serrations. The upper leaf surface is rough and the lower surface is usually pubescent with soft white hairs. Schweinitz's sunflower blooms from late August to frost; the yellow flower heads are about 0.6 inch (1.5 cm) in diameter. The current range of this species is within 60 mi (97 km) of Charlotte, North Carolina, occurring on upland interstream flats or gentle slopes, in soils that are thin or clayey in texture. The species needs open areas protected from shade or excessive competition, reminiscent of Piedmont prairies.

Disturbances such as fire maintenance or regular mowing help sustain preferred habitat (FWS 1994).

### Biological Conclusion: No Effect

NHP records do not document any occurrences of Schweinitz's sunflower of within 3.0 mi (4.8 km) of the project study area. Potentially suitable habitat for Schweinitz's sunflower does not occur within the project study area. Roadsides and medians are maintained too frequently to provide suitable habitat. Successional communities are located within the Brown Creek and Little Brown Creek floodplains and are too wet to provide suitable habitat for Schweinitz's sunflower. This project will not affect the Schweinitz's sunflower.

## 2. Federal Species of Concern

The March 7, 2002 FWS list also includes a category of species designated as "Federal species of concern" (FSC). The FSC designation provides no federal protection under the ESA for the species listed. The presence of potential suitable habitat (Amoroso 1999 and Le Grande *et al.* 2001) within the project study area has been evaluated for the following FSC species listed for Anson County.

Table 5. Federal Species of Concern (FSC).

Common Name	Scientific Name	Potential Habitat	State Status <sup>a</sup>
Carolina redbush	<i>Moxostoma</i> sp. 2	Yes	SR
Robust redbush	<i>Moxostoma robustum</i>	Yes	SC
Bog spicebush	<i>Lindera subcoriacea</i>	No	E

<sup>a</sup> E-Endangered, SC-Special Concern, SR – Significantly Rare.

NHP records show no documentation of any FSC species occurring within 3.0 mi (4.8 km) of the project study area.

## 3. State Protected Species

Plant and animal species which are on the North Carolina state list as Endangered (E), Threatened (T), or Special Concern (SC), receive limited protection under the North Carolina Endangered Species Act (G.S. 113-331 *et seq.*) and the North Carolina Plant Protection Act of 1979 (G.S. 106-202 *et seq.*).

NHP records do not document any state protected species within 3.0 mi (4.8 km) of the project study area. During the survey for Carolina heelsplitter, the state listed

Threatened (T) creeper (*Strophitus undulatus*), a freshwater mussel, was documented in Little Brown Creek within the project study area. Eastern creekshell, listed as Significantly Rare by NHP, was also found in Brown Creek and Little Brown Creek; this species is not afforded state protection. Little Brown Creek also contained a species of lampmussel (freshwater mussel). NCDOT biologists performed a specific identification survey, which did not reveal any listed species of mussels.

## **VI. CULTURAL RESOURCES**

### **A. Compliance Guidelines**

This project is subject to compliance with Section 106 of the National Historical Preservation Act of 1966, as amended and implemented by the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified at 36 CFR Part 800. Section 106 requires Federal agencies to take into account the effect of their undertakings (federally funded, licensed, or permitted projects) on properties listed in or eligible for the National Register of Historic Places (NRHP) and to afford the Advisory Council on Historic Preservation reasonable opportunity to comment on such undertakings.

### **B. Historic Architecture**

The November 5, 2001 memorandum from the State Historic Preservation Office (HPO), (see attached), requested a survey and evaluation of Bridge No. 33 since it is greater than fifty (50) years of age. A field survey of the Area of Potential Effects (APE) was conducted on March 19, 2002. The findings of the survey were presented to the HPO on June 18, 2002 and was determined not eligible for the NRHP (see attached concurrence dated June 21, 2002).

### **C. Archaeology**

No archaeological survey was recommended by the HPO, see attached memorandum dated November 5, 2001.

## **VII. ENVIRONMENTAL EFFECTS**

The project is expected to have an overall positive impact. Replacements of an inadequate bridge will result in safer traffic operations.

The project is a Federal "Categorical Exclusion" due to its limited scope and lack of significant environmental consequences.

The bridge replacement will not have an adverse effect on the quality of the human or natural environment with the use of current NCDOT standards and specifications.

The project does not conflict with any plan, existing land use, or zoning regulation. No significant change in land use is expected to result from construction of the project.

No Adverse impact on families or communities is anticipates. Right of way acquisition will be limited. No relocatees are expected with implementation of the proposed alternative.

No adverse effect on public facilities or services is anticipated. The project is not expected to adversely affect social, economic, or religious opportunities in the area.

The are no publicly owned recreational facilities, or wildlife and waterfowl refuges of national, state, or local significance in the vicinity of the project.

No North Carolina Geodetic Survey control monuments will be impacted during construction of this project.

The Farmland Protection Policy Act requires all federal agencies or the representatives to consider potential impacts to prime and important farmland soils be all land acquisition and construction projects. Prime and important farmland soils are defined by the Natural Resources Conservation Service (NRCS). Since there are no prime or important farmlands in the immediate vicinity of the proposed bridge the Farmland Protection Policy does not apply.

This project is an air quality "neutral" project, so it is not required to be included in the regional emission analysis (if applicable) and a project level CO analysis is not required.

This project is located in Anson County, which has been determined to be in compliance with the National Ambient Air Quality Standards. 40 CFR Part 51 is not applicable, because the proposed project is located in an attainment area. This project is not anticipated to create any adverse effects on the air quality of this attainment area.

The traffic volumes will not increase or decrease because of this project. There are no receptors located in the immediate project area. The project's impact on noise and air quality will not be significant.

Any noise levels increases during construction but will be temporary. If vegetation is disposed of by burning, all burning shall be done in accordance with applicable local laws and regulations of the North Carolina SIP for air quality in compliance with 15 NCAC 2D.0520. This evaluation completes the assessment requirements for highway traffic noise (23 CFR Part 722) and for air quality (1990 CAAA and NEPA) and no additional reports are required.

As Examination of records at the North Carolina Department of Environment and Natural Resources, Division of Water Quality, Groundwater Section and the North Carolina Department

of Human Resources, Solid Waste Management Section revealed no hazardous waste sites in the project area.

Anson County is a participant in the National Flood Insurance Regular Program. This site on Brown Creek is located in a Special Flood Hazard Area, also known as the 100-year floodplain. A copy of the Flood Insurance Rate Map, on which are shown the approximate limits of the 100-year flood plain in the vicinity of the project is included (Figure 5).

On the basis of the above discussion, it is concluded that no significant adverse environmental effects will result from implementation of the project.

### **VIII. PUBLIC INVOLVEMENT**

Efforts were taken early in the planning process to contact local officials to involve them in the project development with a scoping letter. Additionally, newsletters detailing the alternatives considered were mailed to the fifteen property owners within a half mile radius of the project area. Comments were received from the Anson County Inspection and Zoning Division with information regarding the location of water and sewer lines along the bridge. No comments were received from private citizens.

### **IX. AGENCY COMMENTS**

The North Carolina Department of Crime Control and Public Safety responded to the scoping letter locating B-4009 in the Special Flood Hazard Area – Zone A (100-Year Floodplain). US Fish & Wildlife & NCDENR Division of Water Quality provided comments, as did the State Historic Preservation office. The US Army Corps of Engineers provided jurisdictional wetland determination.

### **X. REFERENCES**

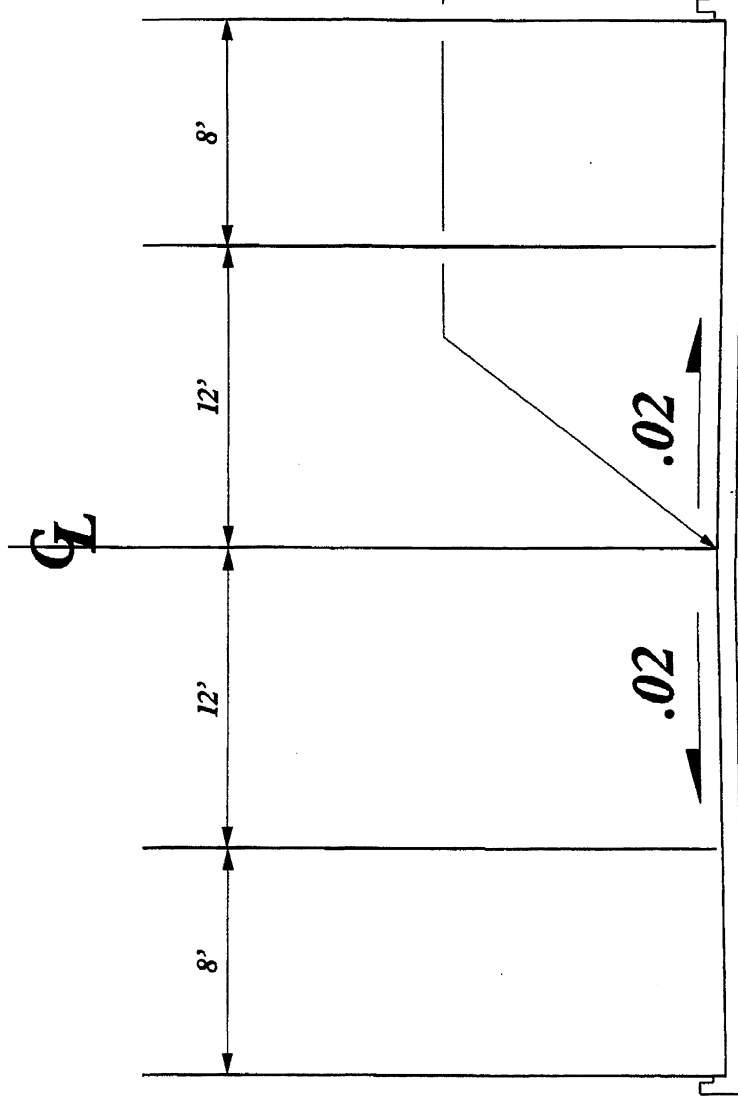
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## FIGURES



**TYPICAL BRIDGE SECTION**

**TRAFFIC DATA**

<b>ADT 2001</b>	8300
<b>ADT 2025</b>	17000
<b>DUAL</b>	3%
<b>TTST</b>	15%

**FUNCTIONAL CLASSIFICATION: PRINCIPAL ARTERIAL-OTHER (RURAL)**



**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
PROJECT DEVELOPMENT AND  
ENVIRONMENTAL ANALYSIS BRANCH**

**ANSON COUNTY**

**BRIDGE NO. 33 ON US 74 WBL  
OVER BROWN CREEK**

**B-4009**

**FIGURE 4**

## APPENDIX

U.S. Department  
of Transportation

United States  
Coast Guard



Commander  
United States Coast Guard (Aowb)  
Fifth Coast Guard District

431 Crawford Street  
Portsmouth, Va. 23704-5004  
Staff Symbol: Aowb  
Phone: (757)398-6227  
FAX: (757) 398-6334

16590  
May 22, 2002

Mr. Michael Penney  
Project Development Engineer  
North Carolina Department of Transportation  
Project Development and Environmental Analysis  
1549 Mail Service Center  
Raleigh, North Carolina 27699-1549

Dear Mr. Penney:

This is in response to your letter dated May 14, 2002, regarding the replacement of Bridge No. 246 across Big Bear Creek in Stanly County, Bridge No. 99 across Long Creek in Stanly County, Bridge No. 81 across Gum Long Creek in Cumberland County, Bridge No. 133 across Doomas Creek in Montgomery County, Bridge No. 47 across Lumber River, in Scotland and Hoke Counties, and Bridge No. 33 across Brown Creek in Anson County, North Carolina.

Since Big Bear Creek, Long Creek, Gum Long Creek, Doomas Creek, Lumber River and Brown Creek are not subject to tidal influence, they are considered legally non-navigable for Bridge Administration purposes. Also, since these waterways are not susceptible for use by interstate or foreign commerce, they meet the criteria set forth in Section 107 of the Coast Guard Authorization Act of 1982. This section of the Act exempts such waterways from Coast Guard bridge permit requirements.

The fact that a Coast Guard permit is not required does not relieve you of the responsibility for compliance with the requirements of any other Federal, State, or local agency who may have jurisdiction over any aspect of the project.

If you should have any questions regarding this matter, please contact Ms. Linda Gilliam-Bonenberger, Bridge Management Specialist, at (757) 398-6227.

Sincerely,

A handwritten signature in black ink, appearing to read "Ann B. Deaton".

ANN B. DEATON  
Chief, Bridge Administration Section  
By direction of the Commander  
Fifth Coast Guard District

**U.S. ARMY CORPS OF ENGINEERS  
Wilmington District**

Action ID: 200230735

County: Anson

**Notification of Jurisdictional Determination**

**Property Owner: NCDOT  
Address: William D. Gilmore, Project  
Development and Environmental Analysis  
1548 Mail Service Center  
Raleigh, NC 27699-1548  
Telephone: 919-733-3141**

**Authorized Agent: Environmental Services, Inc.  
Attn. Matt K Smith  
Address: 524 New Hope Road  
Raleigh, NC 27610  
Telephone: 919-212-1760**

**Size and Location of Property (waterbody, Highway name/number, town, etc.):  
TIP No. B-4009, Bridge over Brown Creek on US 74 at Polkton, Anson County**

**Basis for Determination: Delineation Map and Data Forms dated March 6, 2002**

**Indicate Which of the Following apply:**

- ◇ There are wetlands on the above described property which we strongly suggest should be delineated and surveyed. The surveyed wetland lines must be verified by our staff before the Corps will make a final jurisdictional determination on your property.
- ◇ On \_\_\_\_\_ the undersigned inspected the Section 404 jurisdictional line as determined by the NCDOT and/or its representatives for the subject NCDOT project/corridor. A select number of sites were inspected and all were found to accurately reflect the limits of Corps jurisdiction. The Corps believes that this jurisdictional delineation can be relied on for planning purposes and impact assessment.
- ✱ The surface waters and wetlands on this project have been delineated and the limits of the Corps jurisdiction have been explained to you. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- ◇ There are no wetlands present on the above described property which are subject to the permit requirements of section 404 of the Clean Water Act (33 USC 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- ◇ The project is located in one of the 20 Coastal Counties. You should contact the nearest State Office of Coastal Management to determine their requirements.

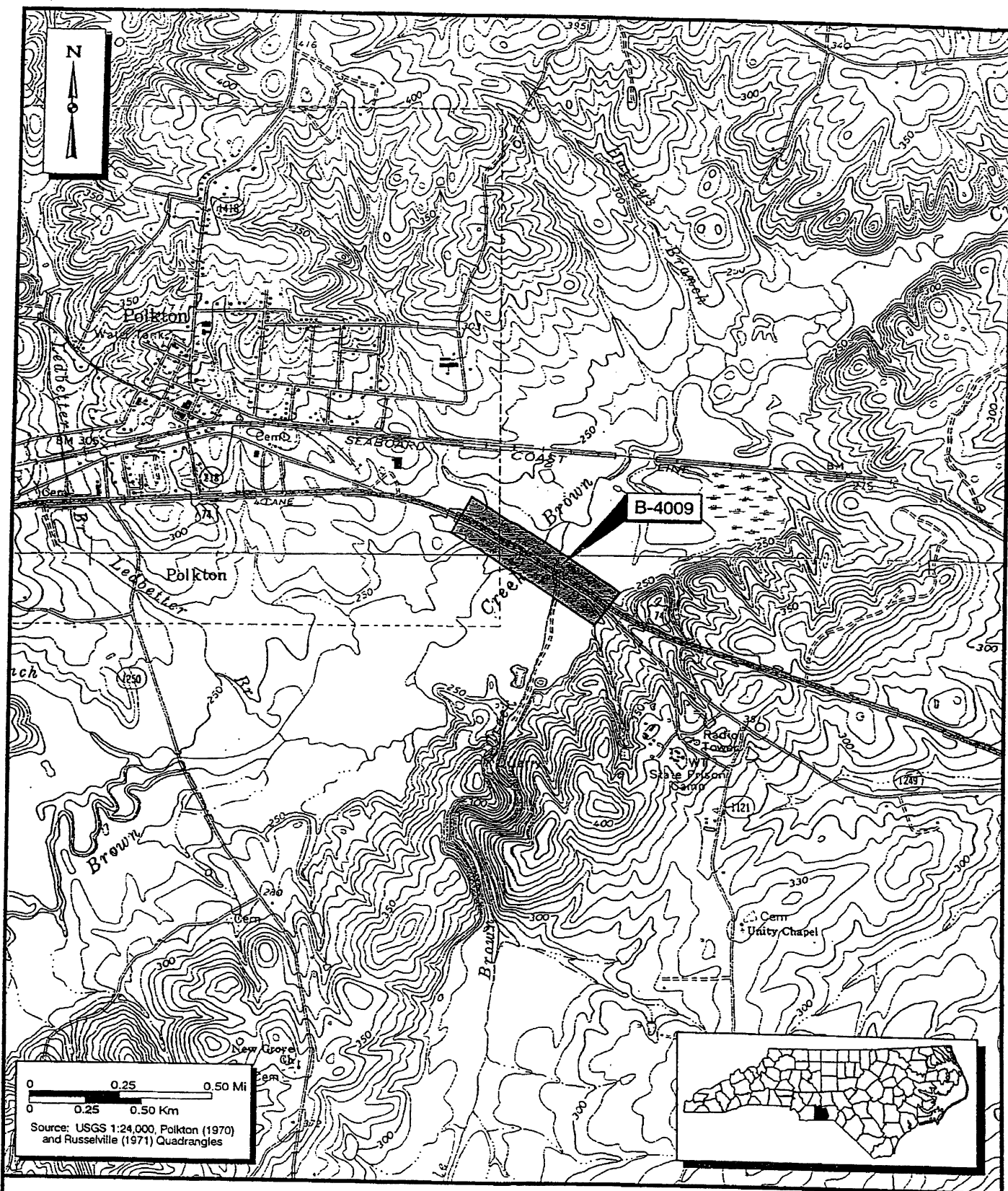
**Placement of dredged or fill material in wetlands on this property without a Department of the Army permit is in most cases a violation of Section 301 of the Clean Water Act (33 USC 1311). A permit is not required for work on the property restricted entirely to existing high ground. If you have any questions regarding the Corps of Engineers regulatory program, please contact Steven W. Lund at 828-271-7980 x 4.**

**Project Manager Signature** \_\_\_\_\_

**Date: April 23, 2002**

**Expiration Date: April 23, 2007**

**SURVEY PLAT OR FIELD SKETCH OF DESCRIBED PROPERTY AND THE WETLAND DELINEATION FORM MUST BE ATTACHED TO THIS FORM.**



**Environmental  
Services, Inc.**

Location Map, Bridge B-4009  
Bridge Group 35  
Anson County, North Carolina

Figure: 1

Project: ER01049

Date: February 2002

EA Wet

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Bridge Group C B-4009</u> Applicant/Owner: <u>NCDOT</u> Investigator: <u>ESI</u>	Date: <u>4/25/01</u> County: <u>Anson Co.</u> State: <u>NC</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> Yes <input type="radio"/> No</span> Is the site significantly disturbed (Atypical Situation)? <span style="float: right;"><input type="radio"/> Yes <input checked="" type="radio"/> No</span> Is the area a potential Problem Area? <span style="float: right;"><input type="radio"/> Yes <input checked="" type="radio"/> No</span> (If needed, explain on reverse)	Community ID: <u>Successional</u> Transect ID: <u>EA 1</u> Plot ID: <u>Wet</u>

## VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Salix nigra</u>	<u>S</u>	<u>OBL</u>	9. <u>Ulmus alata</u>	<u>S</u>	<u>FACU</u>
2. <u>Typha latifolia</u>	<u>H</u>	<u>OBL</u>	10. _____	_____	_____
3. <u>Liquidambar styraciflua T</u>	_____	<u>FAC+</u>	11. _____	_____	_____
4. <u>Ligustrum sinense</u>	<u>S</u>	<u>FAC</u>	12. _____	_____	_____
5. <u>Toxicodendron radicans V</u>	_____	<u>FAC</u>	13. _____	_____	_____
6. <u>Acer rubrum</u>	<u>S</u>	<u>FAC</u>	14. _____	_____	_____
7. <u>Fraxinus pennsylvanica T</u>	_____	<u>FACW</u>	15. _____	_____	_____
8. <u>Crateagus spp.</u>	<u>S</u>	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 7/8 = 88%

Remarks:

## HYDROLOGY

Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: <b>Primary Indicators:</b> <input type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands <b>Secondary Indicators (2 or more required):</b> <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>N/A</u> (in.) Depth to Free Water in Pit: <u>N/A</u> (in.) Depth to Saturated Soil: <u>8</u> (in.)	Remarks:

# SOILS

Map Unit Name (Series and Phase): <u>CHEWACLA-CWASTAIN 0-2% SLOPES</u>		Drainage Class: <u>PERA FLOODED</u>
Taxonomy (Subgroup): <u>FLUVAQUENTIC DYSTROCHREPTS</u>		Field Observations Confirm Mapped Type: Yes <input type="radio"/> No <input checked="" type="radio"/>

**Profile Description:**

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-18		10 YR 5/2	2.5 YR 4/6	many/distinct	clay

**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
---	--

Remarks:

## WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle) Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)
Remarks:	

Approved by HQUSACE 2/92



**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

EB Wet  
VJ

Project/Site: <u>Bridge Group C B-4009</u> Applicant/Owner: <u>NCDOT</u> Investigator: <u>ESI</u>	Date: <u>7/2/01</u> County: <u>Anson</u> State: <u>NC</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> Yes <input type="radio"/> No</span> Is the site significantly disturbed (Atypical Situation)? <span style="float: right;"><input type="radio"/> Yes <input checked="" type="radio"/> No</span> Is the area a potential Problem Area? <span style="float: right;"><input type="radio"/> Yes <input checked="" type="radio"/> No</span> (If needed, explain on reverse)	Community ID: <u>Successional</u> Transect ID: <u>EB 3</u> Plot ID: <u>Wet</u>

**VEGETATION**

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Salix nigra</u>	<u>S</u>	<u>OBL</u>	9. _____	_____	_____
2. <u>Fraxinus pennsylvanica</u>	<u>T</u>	<u>FACW</u>	10. _____	_____	_____
3. <u>Typha latifolia</u>	<u>H</u>	<u>OBL</u>	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 3/3 = 100%

Remarks: \_\_\_\_\_

**HYDROLOGY**

Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators:</b> <input type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands <b>Secondary Indicators (2 or more required):</b> <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
<b>Field Observations:</b> Depth of Surface Water: <u>None</u> (in.) Depth to Free Water in Pit: <u>None</u> (in.) Depth to Saturated Soil: <u>8</u> (in.)	Remarks: <u>Drought conditions</u>

# SOILS

Map Unit Name (Series and Phase): <u>CUEWACLA - CUA STAIN 0-2° SW 1/4</u>		Drainage Class: <u>FRSD FLOODED</u>	
Taxonomy (Subgroup): <u>FLUVAQUENTIC DISTROCHREPTS</u>		Field Observations Confirm Mapped Type: Yes <input checked="" type="radio"/> No <input type="radio"/>	

**Profile Description:**

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-18		5 Y 6/2	2.5 YR 5/6	c/d	clay
			gley 1 5/10GY	c/d	

**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

## WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle) Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle) Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)
Remarks:	

Approved by HQUSACE 2/92

VC wet

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
**(1987 COE Wetlands Delineation Manual)**

Project/Site: <u>B-4009 Anson County</u> Applicant/Owner: <u>NCDOT</u> Investigator: <u>EST</u>	Date: <u>7-2-01</u> County: <u>Anson</u> State: <u>NC</u>
Do Normal Circumstances exist on the site? <span style="float: right;">Yes <input checked="" type="radio"/> No <input type="radio"/></span> Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">Yes <input type="radio"/> No <input checked="" type="radio"/></span> Is the area a potential Problem Area? <span style="float: right;">Yes <input type="radio"/> No <input checked="" type="radio"/></span> (If needed, explain on reverse)	Community ID: <u>bottomland hardwood</u> Transect ID: <u>VC</u> Plot ID: <u>VC 23 wet</u>

**VEGETATION**

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Saururus cernuus</u>	<u>H</u>	<u>OBL</u>	9. _____	_____	_____
2. <u>Polygonum sp</u>	<u>H</u>	<u>-</u>	10. _____	_____	_____
3. <u>Carex sp</u>	<u>H</u>	<u>-</u>	11. _____	_____	_____
4. <u>Dulichium arundinaceum</u>	<u>H</u>	<u>OBL</u>	12. _____	_____	_____
5. <u>Ulmus americana</u>	<u>S</u>	<u>FACW</u>	13. _____	_____	_____
6. <u>Fraxinus pennsylvanica</u>	<u>S</u>	<u>FACW</u>	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 100%

Remarks:

**HYDROLOGY**

<p><u>  </u> Recorded Data (Describe in Remarks):</p> <p><u>  </u> Stream, Lake or Tide Gauge</p> <p><u>  </u> Aerial Photographs</p> <p><u>  </u> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p><b>Wetland Hydrology Indicators:</b></p> <p><b>Primary Indicators:</b></p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input checked="" type="checkbox"/> Water Marks</p> <p><input checked="" type="checkbox"/> Drift Lines</p> <p><u>  </u> Sediment Deposits</p> <p><u>  </u> Drainage Patterns in Wetlands</p> <p><b>Secondary Indicators (2 or more required):</b></p> <p><u>  </u> Oxidized Root Channels in Upper 12 Inches</p> <p><input checked="" type="checkbox"/> Water-Stained Leaves</p> <p><u>  </u> Local Soil Survey Data</p> <p><u>  </u> FAC-Neutral Test</p> <p><u>  </u> Other (Explain in Remarks)</p>
<p><b>Field Observations:</b></p> <p>Depth of Surface Water: <u>75</u> (in.)</p> <p>Depth to Free Water in Pit: <u>-</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	
<p>Remarks:</p>	

## SOILS

Map Unit Name (Series and Phase): <u>Chewacla-Chastain complex</u>		Drainage Class: <u>somewhat poorly</u> Field Observations	
Taxonomy (Subgroup): <u>Fluvisolentic Dystrachrepts</u>		Confirm Mapped Type: Yes <input type="radio"/> No <input checked="" type="radio"/>	

**Profile Description:**

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-18		10YR 5/4	7.5YR 5/6	C/d	clay

**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other [Explain in Remarks]
---	--

Remarks: beaver impoundment causing soils to revert to hydric conditions gradually

## WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle) Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input type="radio"/> Yes <input checked="" type="radio"/> No	(Circle) Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Remarks:	

Approved by HQUSACE 2/92



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

Asheville Field Office  
160 Zillicoa Street  
Asheville, North Carolina 28801

April 5, 2002



Ms. Iona L. Hauser  
Wilbur Smith Associates  
333 Fayetteville Street Mall, Suite 1450  
Raleigh, North Carolina 27601

Dear Ms. Hauser:

Subject: Review of Bridge Replacement Group 35 for the North Carolina Department of Transportation, Stanly and Anson Counties, North Carolina

We have reviewed the subject projects and are providing these comments in accordance with the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667e), and Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (Act).

#### **EFFECTS TO WATERS AND WETLANDS**

We are pleased with the decision to replace bridges with bridges. The new bridge designs should include provisions for roadbed and deck drainage to flow through a vegetated buffer prior to reaching the affected stream. This buffer should be large enough to alleviate any potential effects from the run-off of storm water and pollutants. The bridge designs should not alter the natural stream and stream-bank morphology or impede fish passage. Any piers or bents should be placed outside the bank-full width of the stream. The bridges and approaches should be designed to avoid any fill that will result in damming or constriction of the channel or floodplain. If spanning the floodplain is not feasible, culverts should be installed in the floodplain portion of the approach to restore some of the hydrological functions of the floodplain and reduce high velocities of flood waters within the affected area.

For the two bridges where the preferred alternative is to replace the structure on its current location, we recommend that, if possible, an off-site detour be provided rather than using temporary structures near the existing bridge. This will minimize the amount of riparian vegetation that must be removed and, in general, reduce the amount of disturbance to the stream. We recommend that erosion- and sedimentation-control measures be in place prior to any

ground-disturbing activities. Wet concrete should never be allowed to come into contact with the stream.

## FEDERALLY LISTED SPECIES

**Stanly County** - B-3908 - Bridge 246 over Big Bear Creek and B-3909 and B-4276 - Bridges 99 and 73 over Long Creek (our Log Numbers 4-2-02-235, 4-2-02-236, and 4-2-02-237, respectively).

In the Natural Resources Technical Reports for each of these projects, biologists considered the two federally listed species in Stanly County--the threatened bald eagle (*Haliaeetus leucocephalus*) and the endangered Schweinitz's sunflower (*Helianthus schweinitzii*). No suitable habitat for the bald eagle exists within the project areas, and there are no documented occurrences in the vicinity of the projects. Surveys for Schweinitz's sunflower revealed no individuals within the project areas. Based on the lack of habitat and negative survey information, we concur with the conclusion of "no effect" to federally listed species for these projects. In view of this, we believe the requirements under Section 7(c) of the Act are fulfilled. However, obligations under Section 7 of the Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner that was not considered in this review, or (3) a new species is listed or critical habitat is determined that may be affected by the identified action.

**Anson County** - B-4009 - Bridge 33 over Brown Creek (our Log Number 4-2-02-238).

In the Natural Resources Technical Report for this project, biologists considered the five federally listed species in Anson County--the threatened bald eagle (*Haliaeetus leucocephalus*) and the endangered Schweinitz's sunflower (*Helianthus schweinitzii*), shortnose sturgeon (*Acipenser brevirostrum*), red-cockaded woodpecker (*Picoides borealis*), and Carolina heelsplitter (*Lasmigona decorata*). No suitable habitat for the bald eagle, shortnose sturgeon, red-cockaded woodpecker, or Schweinitz's sunflower exists within the project area, and there are no documented occurrences in the vicinity of the project. Suitable habitat for the Carolina heelsplitter was determined to occur in Brown Creek; therefore, field surveys were conducted for this species. Although seven species of native freshwater mussels were found during surveys in Brown Creek and Little Brown Creek, no federally listed species were found. With over 35 person-hours of surveys conducted for this project and in the vicinity of the project, no Carolina heelsplitter mussels were located. Therefore, we concur with your conclusion of "no effect" to the Carolina heelsplitter for this project. In view of this, we believe the requirements under Section 7(c) of the Act are fulfilled. However, obligations under Section 7 of the Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner that was not considered in this review, or (3) a new species is listed or critical habitat is determined that may be affected by the identified action.



As further protection for the native freshwater mussels that may be affected by the construction of this project, we recommend that, if possible, they be removed from the area of impact. They could be moved to suitable habitat upstream of the project or held in a secure location until the construction is completed and then be placed back in Brown Creek at their original location.

We appreciate the opportunity to provide these comments. If you have any questions or concerns, please contact Ms. Marella Buncick of our staff at 828/258-3939, Ext. 237. As noted above, we have assigned log numbers to each project. Please reference these numbers in any future correspondence concerning these projects.

Sincerely,

A handwritten signature in cursive script, appearing to read "Brian P. Cole".

Brian P. Cole  
State Supervisor

**CONCURRENCE FORM FOR PROPERTIES NOT ELIGIBLE FOR  
THE NATIONAL REGISTER OF HISTORIC PLACES**

*Project Description:* Replace Bridge No. 33 on US 74 WBL over Browns Creek

On 06/18/2002, representatives of the

- ☒ North Carolina Department of Transportation (NCDOT)  
☐ Federal Highway Administration (FHWA)  
☒ North Carolina State Historic Preservation Office (HPO)  
☐ Other

Reviewed the subject project at

- ☐ Scoping meeting  
☒ Historic architectural resources photograph review session/consultation  
☐ Other

All parties present agreed

- ☐ There are no properties over fifty years old within the project's area of potential effects.
- ☒ There are no properties less than fifty years old which are considered to meet Criteria Consideration G within the project's area of potential effects.
- ☒ There are properties over fifty years old within the project's Area of Potential Effects (APE), but based on the historical information available and the photographs of each property, the property identified as Bridge # 33 is considered not eligible for the National Register and no further evaluation of it is necessary.
- ☒ There are no National Register-listed or Study Listed properties within the project's area of potential effects.
- ☐ All properties greater than 50 years of age located in the APE have been considered at this consultation, and based upon the above concurrence, all compliance for historic architecture with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.
- ☒ There are no historic properties affected by this project. (Attach any notes or documents as needed)

Signed:

Mary Pope  
Representative, NCDOT

6/18/2002  
Date

R. H. A.  
FHWA, for the Division Administrator, or other Federal Agency

6/21/02  
Date

Carl Swallow  
Representative, HPO

6/18/02  
Date

David Kloss  
State Historic Preservation Officer *by BJS*

6/19/02  
Date

If a survey report is prepared, a final copy of this form and the attached list will be included.



Vance

North Carolina Department of Cultural Resources  
State Historic Preservation Office

David L. S. Brook, Administrator

Michael F. Easley, Governor  
Lisbeth C. Evans, Secretary

Division of Archives and History  
Jeffrey J. Crow, Director

November 5, 2001

MEMORANDUM

TO: William D. Gilmore, Manager  
Project Development and Environmental Analysis Branch  
Division of Highways  
Department of Transportation

FROM: David Brook *for David Brook*

SUBJECT: Bridge #33 on NC 74 WBL over Brown Creek, TIP B-4009, Anson County, ER 02-7899

Thank you for your letter of September 26, 2001, concerning the above project.

We have conducted a search of our maps and files and located the following structure of historical or architectural importance within the general area of this project:

Bridge #33 built in 1922

We recommend that a Department of Transportation architectural historian identify and evaluate any structures over fifty years of age within the project area, and report the findings to us.

There are no known archaeological sites within the proposed project area. Based on our knowledge of the area, it is unlikely that any archaeological resources that may be eligible for conclusion in the National Register of Historic Places will be affected by the project. We, therefore, recommend that no archaeological investigation be conducted in connection with this project.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763. In all future communication concerning this project, please cite the above-referenced tracking number.

DB:kgc

cc: Mary Pope Furr, NCDOT

	Location	Mailing Address	Telephone/Fax
Administration	507 N. Blount St, Raleigh, NC	4617 Mail Service Center, Raleigh 27699-4617	(919) 733-4763 • 733-8653
Restoration	515 N. Blount St, Raleigh, NC	4613 Mail Service Center, Raleigh 27699-4613	(919) 733-6547 • 715-4801
Survey & Planning	515 N. Blount St, Raleigh, NC	4618 Mail Service Center, Raleigh 27699-4618	(919) 733-4763 • 715-4801



William G. Russ Jr., Secretary  
Gregory J. Thorpe, Ph.D.  
Acting Director  
Division of Water Quality

October 31, 2001

MEMORANDUM

To: Elmo Vance, NCDOT Project Development & Environmental Analysis Branch  
Through: John Dorney, NC Division of Water Quality  
From: Cynthia F. Van Der Wiele, NCDOT Coordinator *CVDW*  
Subject: Scoping Comments for Bridge Replacement Projects: B-3908, B-3909, B-4009, B-4205, B-4276, B-3680.

This memo is in reference to your correspondence dated October 3, 2001, in which you requested scoping comments for the above projects. The Division of Water Quality (DWQ) requests that the following topics be addressed:

1. DWQ requests that best management practices (BMPs) for bridge demolition shall be adhered to, particularly on TIP Project B-4205 in Montgomery County, as Doomas Creek is listed as a High Quality Water (HQW).
2. Disturbance of the stream channels must be limited to only what is necessary to perform the bridge demolition and removal. Heavy equipment must be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into the stream.
3. Project B-4205 in Montgomery County shall comply with the requirements for High Quality Waters with regards to stormwater management, sedimentation and erosion control and buffer requirements.
4. Ensure that sediment & erosion control measures are not placed in wetlands.
5. Borrow/waste areas should avoid wetlands to the maximum extent practicable. Prior to the approval of any borrow/waste site in a wetland, the contractor must obtain a 401 certification from DWQ.
6. The information packet did not include information regarding the types of structures that will be replacing the deficient bridges. Two voice mail messages were left in regard to a request for more information (and not returned). DWQ prefers that the structures that will be replacing the deficient bridges will be bridges. All structures shall be installed in such a manner that the original stream profiles are not altered (i.e. the depth of the channel must not be reduced by a widening of the streambed). Existing stream dimensions are to be maintained above and below locations of culvert extensions.
7. All work shall be performed during low flow conditions.
8. All mechanized equipment operated near surface waters should be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.

9. Written concurrence of 401 Water Quality Certification may be required for these projects (e.g., applications requesting coverage under NW 14 or Regional General Permit 198200031). Please be aware that 401 certification may be denied if wetland or water impacts have not been avoided and minimized to the maximum extent practicable.

Thank you for requesting our input at this time. The DOT is reminded that issuance of a 401 Water Quality Certification requires that appropriate measures be instituted to ensure that water quality standards are met and designated uses are not degraded or lost. If you have any questions or require additional information, please contact Cynthia Van Der Wiele at (919) 733.5715.

Pc: USACE Wilmington Field Office  
USACE Asheville Field Office  
Marella Buncick, USFWS Asheville Field Office  
MaryEllen Haggard, NCWRC  
File Copy



*E. Vance*

North Carolina Department of Crime Control and Public Safety  
Division of Emergency Management

Michael F. Easley, Governor

Bryan E. Beatty, Secretary

October 19, 2001

Mr. William D. Gilmore, P.E.,  
Manager of the Project Development and Environmental Analysis Branch  
Division of Highways  
1549 Mail Service Center  
Raleigh, NC 27699-1549

OCT 22 2001

Subject: **RE: Bridge Replacement Projects**

Dear Mr. Gilmore:

Thank you for your letters dated September 26, 2001 regarding the review of nine bridge replacement projects. The North Carolina Division of Emergency Management has reviewed the proposed projects and would like to provide comments to the Department of Transportation.

My staff has reviewed the Flood Insurance Rate Maps (FIRMs) for your project areas. The majority of these projects are located in Special Flood Hazard Areas, also known as the 100-year floodplain. Please ensure that the proposed projects do not cause an increase in the Base Flood Elevation (BFE) in these areas and that they comply with Nation Flood Insurance Program guidelines.

**Projects Located in Special Flood Hazard Areas (100-year floodplain)**

- B-4009, Bridge No. 33 in Anson County - Zone A
- B-3830, Bridge No. 363 in Columbus County - Zone A
- B-4205, Bridge No. 133 in Montgomery County - Zone A
- B-4273, Bridge No. 37 in Scotland County - Zone A
- B-3908, Bridge No. 246 in Stanly County - Zone A
- B-3909, Bridge No. 99 in Stanly County - Zone A
- B-4276, Bridge No. 33 in Stanly County - Zone A5

**Projects Not Located in Special Flood Hazard Areas (100-year floodplain)**

- B-4093, Bridge No. 81 in Cumberland County - Zone B (500-year floodplain)
- B-3680, Bridge No. 2 in Moore County - Zone X (500-year floodplain)

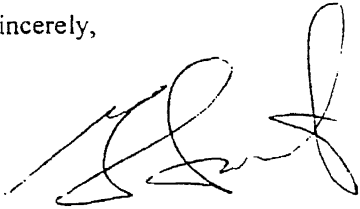
The Division of Emergency Management does not oversee the routing of Emergency Response Units on a day-to-day basis. However, utilizing off-site detour routes has the potential to increase response times of these units, especially if alternate routes are not available. Your agency should contact local emergency management officials or the local representatives responsible for roadways. NCEM would



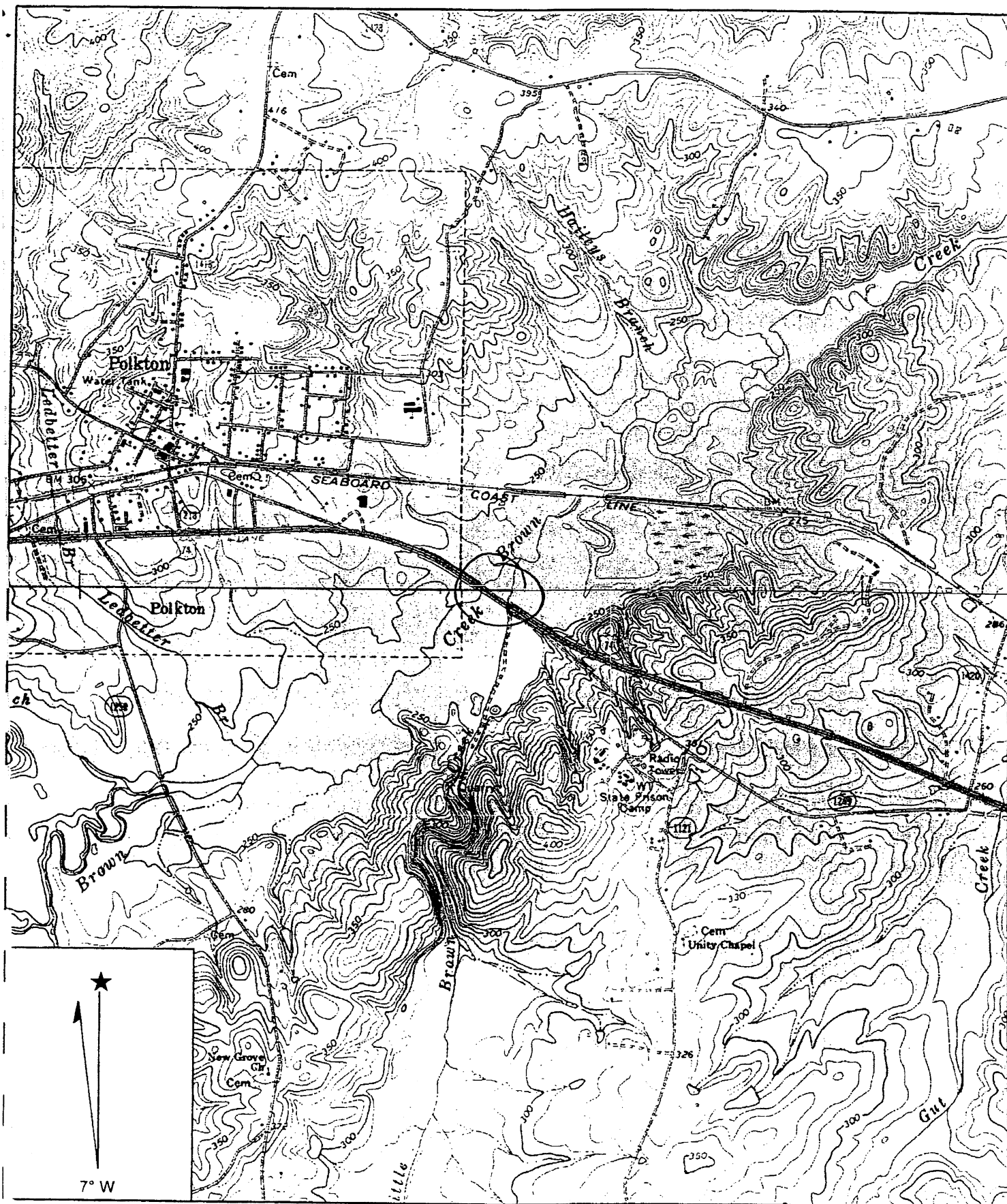
also like to advise that you pay close attention to roadways that have been identified as evacuation routes and the potential impacts your projects may have on evacuation travel.

If you have any further questions or need additional information, please do not hesitate to contact Steve Garrett at (919) 715-8000, extension 349.

Sincerely,

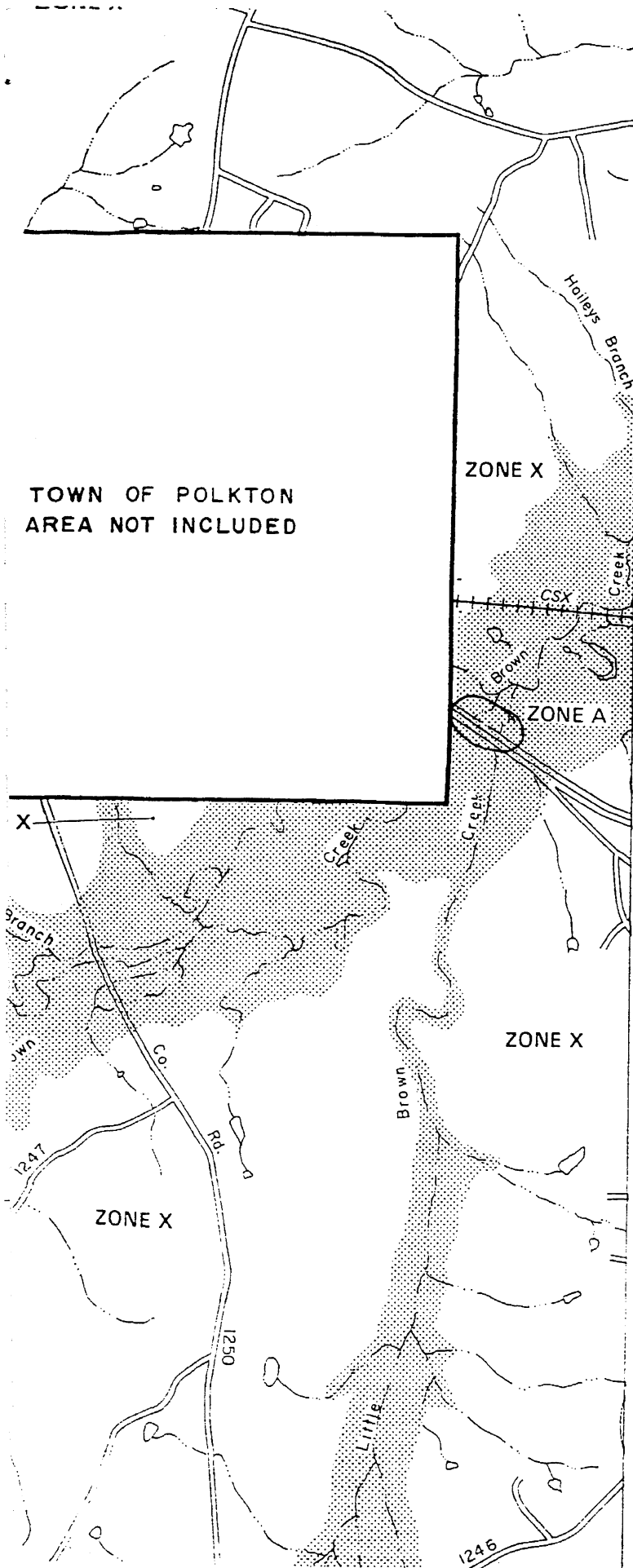
A handwritten signature in black ink, appearing to read 'Gavin Smith', with a stylized, looping flourish at the end.

Gavin Smith, Ph.D.  
Assistant Director, Hazard Mitigation  
North Carolina Division of Emergency Management



Name: RUSSELLVILLE  
 Date: 10/10/2001  
 Scale: 1 inch equals 2000 feet

Location: 17 574329 E 3873076 N  
 Caption: Anson County, B-4009  
 Bridge no. 33 on US74 WBL over Brown Creek.  
 L=643ft, W=29.1ft, yr built 1922



with regard to requirements of the Federal Emergency Management Agency. Floodway widths in some areas may be too narrow to show to scale. Refer to Floodway Data Table where floodway width is shown at 1/20 inch. Coastal base flood elevations apply only landward of the shoreline. This map incorporates approximate boundaries of coastal barriers established under the Coastal Barrier Resources Act (PL 97-348). Elevation reference marks are described in the Flood Insurance Study Report. Corporate limits shown are current as of the date of this map. The user should contact appropriate community officials to determine if corporate limits have changed subsequent to the issuance of this map. For adjoining panels, see separately printed Map Index.

#### MAP REPOSITORY

Building Inspection Office, Law Enforcement Center, Wadesboro, North Carolina (Maps available for reference only, not for distribution.)

#### INITIAL IDENTIFICATION:

JULY 15, 1977

#### FLOOD HAZARD BOUNDARY MAP REVISION:

#### FLOOD INSURANCE RATE MAP EFFECTIVE:

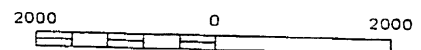
JUNE 18, 1990

#### FLOOD INSURANCE RATE MAP REVISIONS:

To determine if flood insurance is available, contact an insurance agent or call the National Flood Insurance Program at (800) 638-6620.



APPROXIMATE SCALE IN FEET



NATIONAL FLOOD INSURANCE PROGRAM

**FIRM**  
FLOOD INSURANCE RATE MAP

ANSON COUNTY,

**NATIONAL FLOOD INSURANCE PROGRAM**

**FIRM**

**FLOOD INSURANCE RATE MAP**

**ANSON COUNTY,  
NORTH CAROLINA  
(UNINCORPORATED AREAS)**

**PANEL 100 OF 225**

**COMMUNITY—PANEL NUMBER:**

**370284 0100 B**

**EFFECTIVE DATE:**

**JUNE 18, 1990**



**Federal Emergency Management Agency**



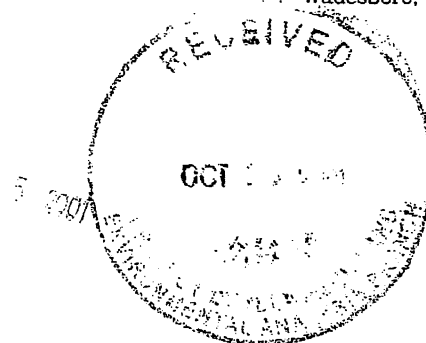
## Anson County Inspection/Zoning

Vance

Fax 704-694-5864  
Phone 704-694-5818  
107-B Ashe Street  
Wadesboro, N. C. 28170

October 12, 2001

Mr. William D. Gilmore, P.E., Manager  
State of North Carolina  
Department of Transportation  
1549 Mail Service Center  
Raleigh, North Carolina 27699-1549



Re: Anson County  
B-4009, Bridge No.33 on US 74  
WBL over Brown Creek

Dear Mr. Gilmore:

If captioned bridge structure is replaced utilizing an off-site detour route, I would like to point out the following facts:

1. Emergency Vehicles, particularly Anson EMS, go over this bridge numerous times daily in route to Anson Community Hospital.
2. Sewer Pump Station and Lines on same side (see map).
3. Marshy land adjacent to bridge.
4. Main water line.
5. No permits needed.

If any questions about water and sewer lines next to Hwy 74 West, please contact Vance Gullledge, Anson County Utilities Director, Wadesboro, NC 704+694-5208.

If you have any questions regarding any comments, or if I can be of any help, please advise.

Sincerely,

*Marvin Deese*

Marvin Deese, Director

140

24" WATER LINE

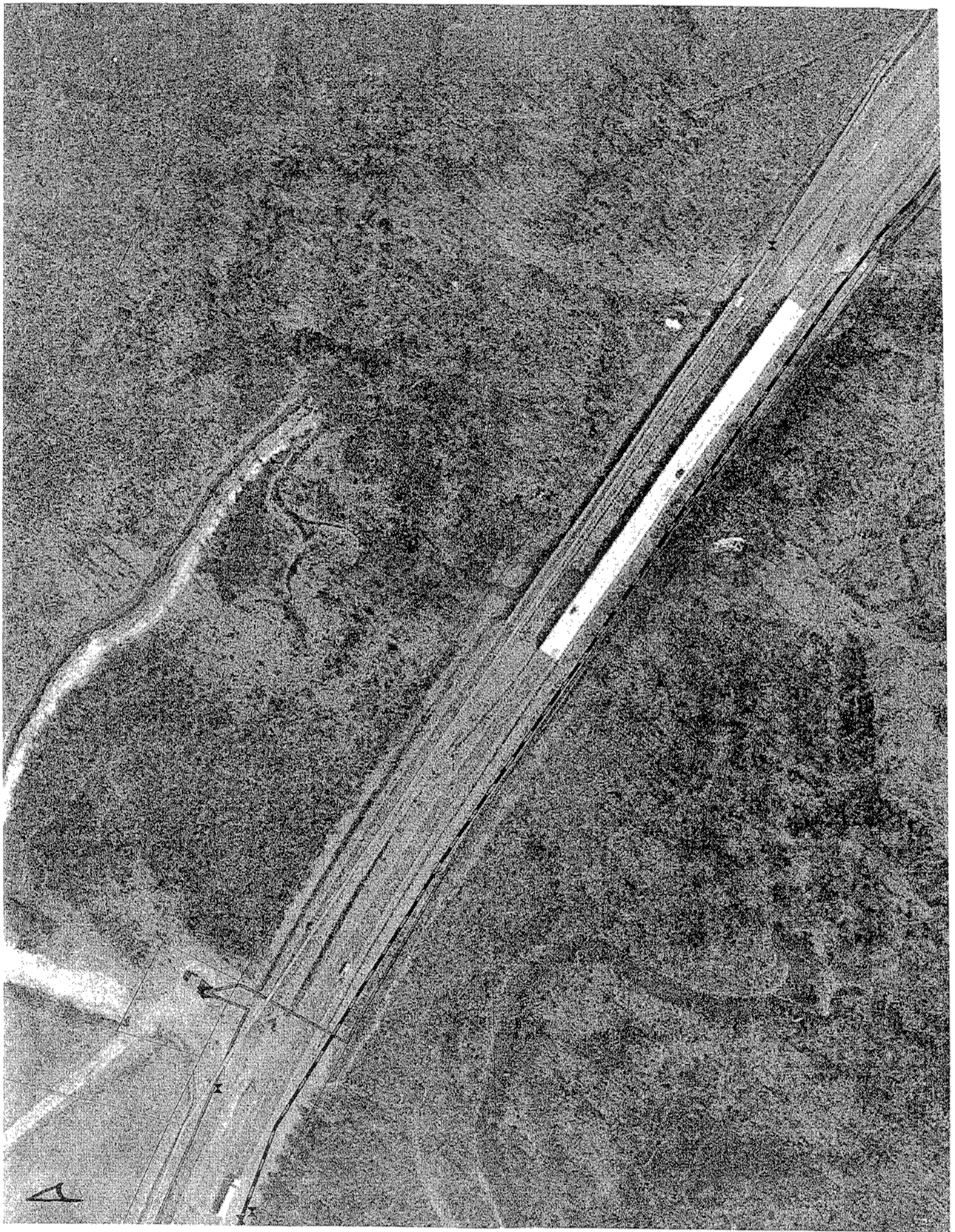
24" SEWER MAIN TO PUMP STATION

12" WATER LINE

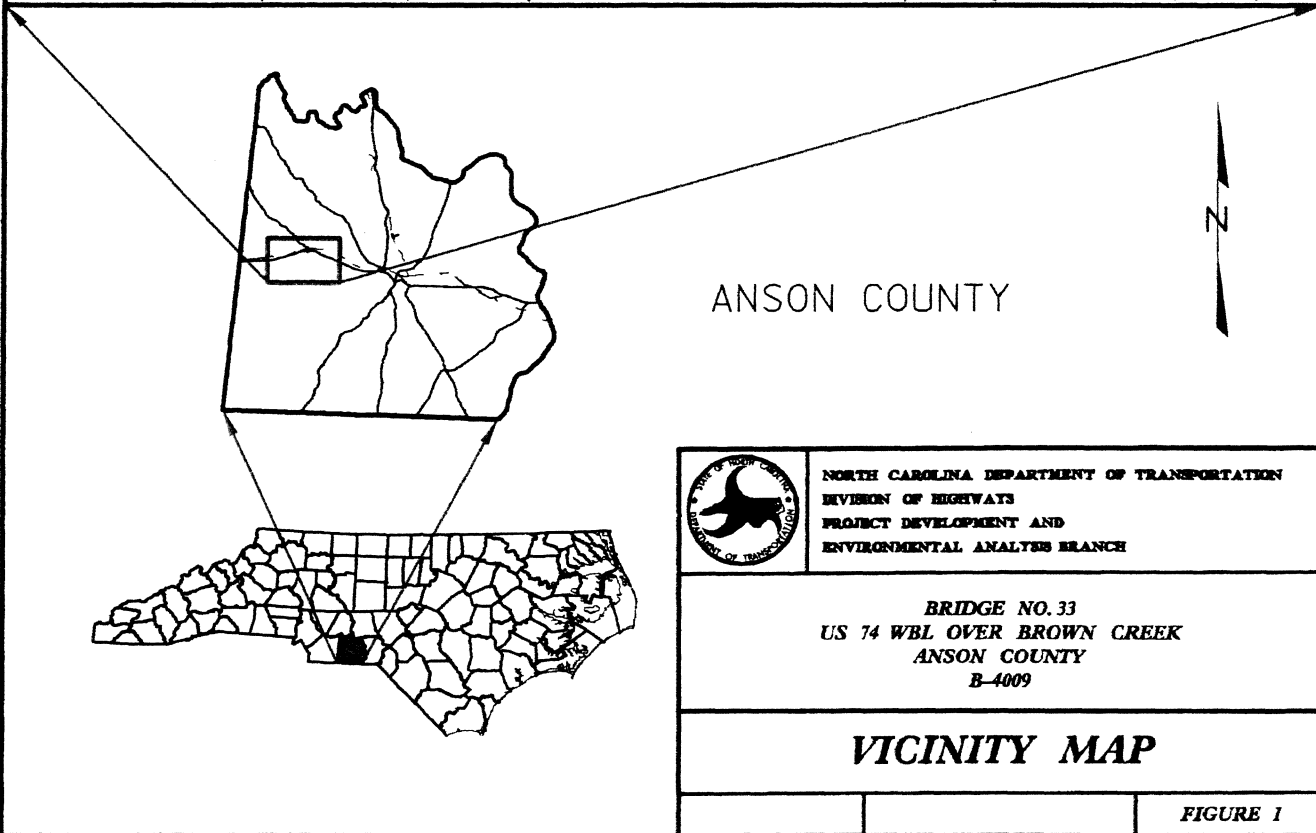
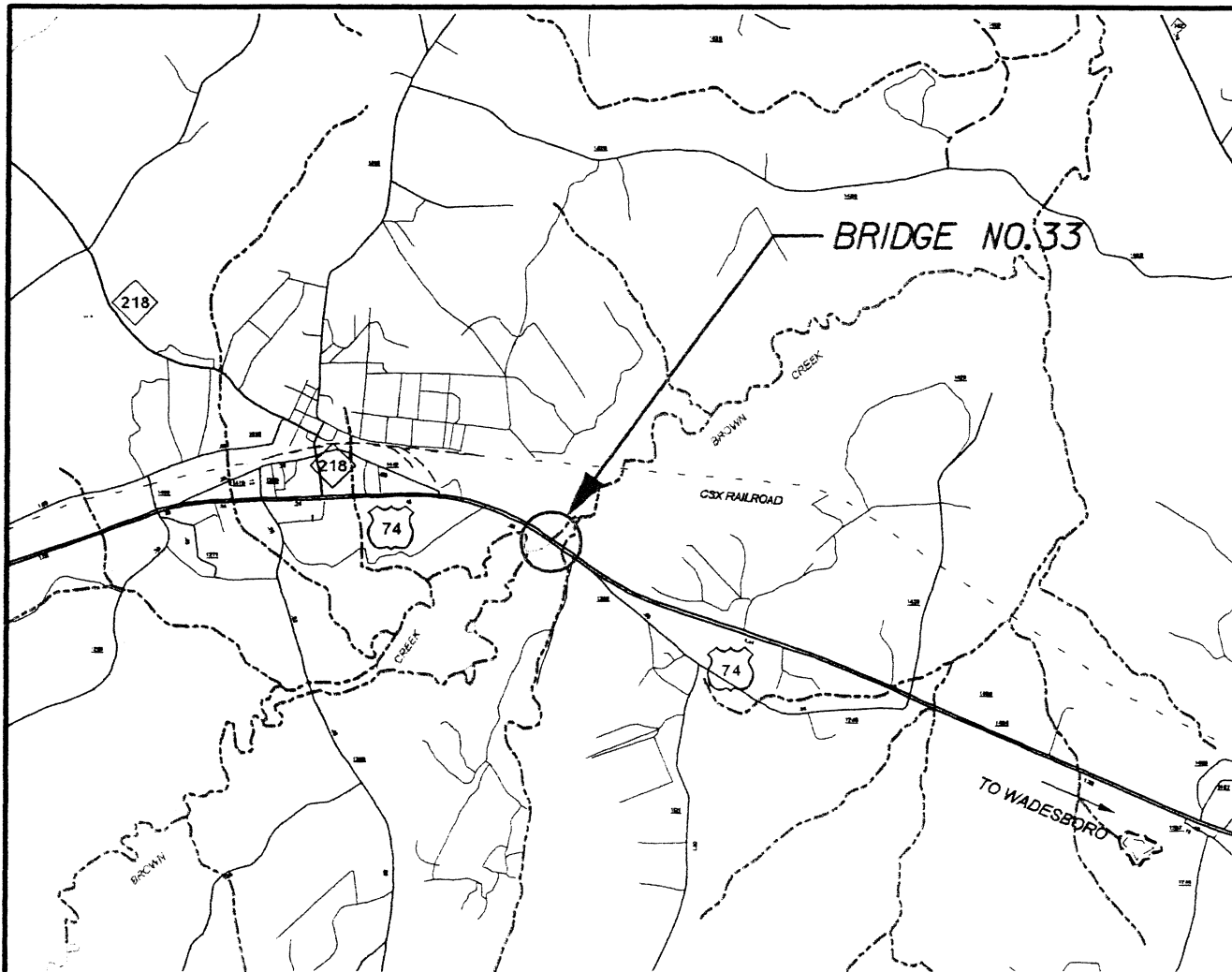
CENTERLINE OF Hwy. 74

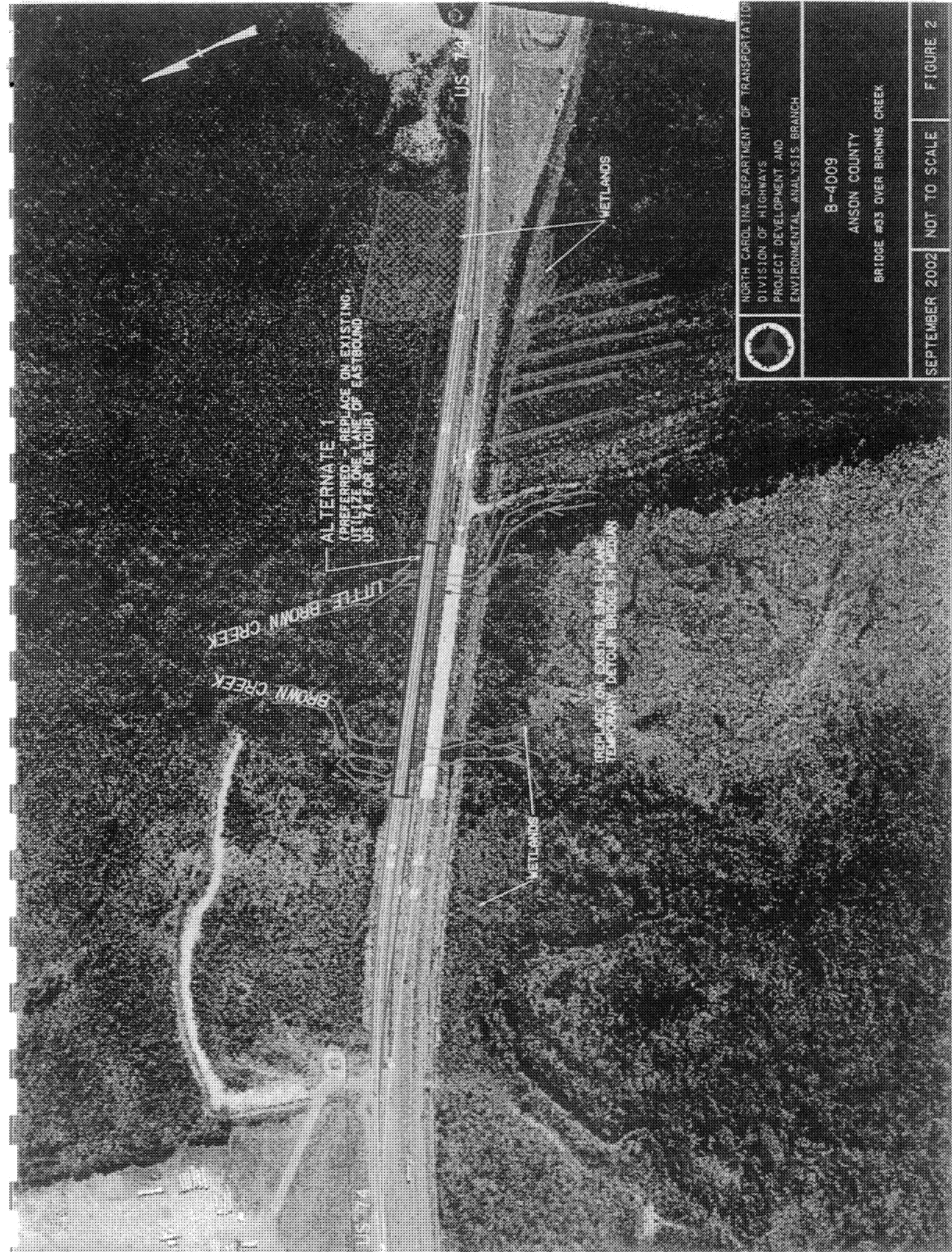
IF ANY QUESTIONS ABOUT  
WATER + SEWER LINES NEXT  
TO Hwy. 74 WEST PLEASE  
CONTACT: VANCE GUILDFE  
ANSON CO. UTILITIES DIR.  
WADESBORO, N.C.  
704-694-5208











NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
PROJECT DEVELOPMENT AND  
ENVIRONMENTAL ANALYSIS BRANCH

B-4009

ANSON COUNTY

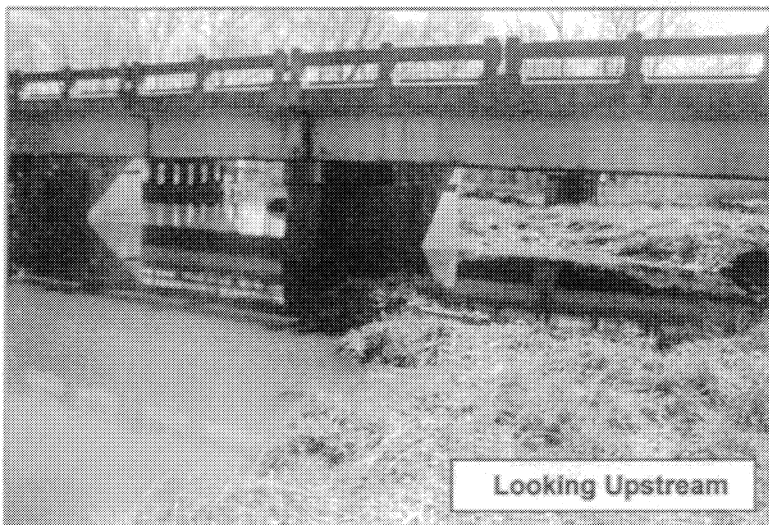
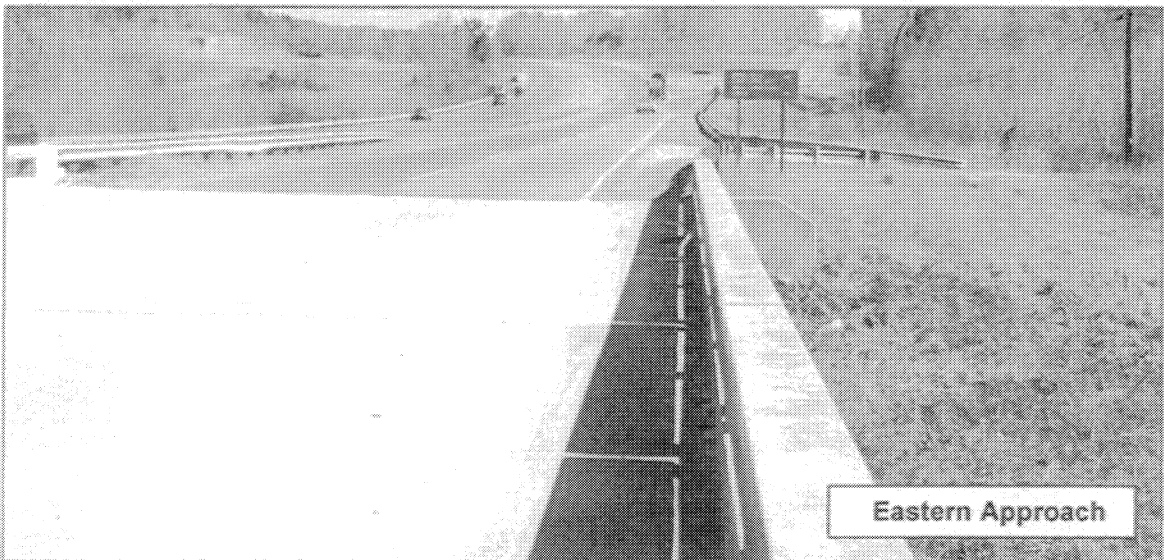
BRIDGE #33 OVER BROWN CREEK

SEPTEMBER 2002

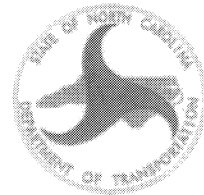
NOT TO SCALE

FIGURE 2





**B-4009**  
 Replacement of Bridge  
 Bridge No. 33  
 US 74 WBL  
 Over Brown Creek  
 Anson County



**FIGURE 3**

